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A TABLE OF

LANCHESTER-CLIFFORD-SCHLÄFLI FUNCTIONS

by

James G. Taylor

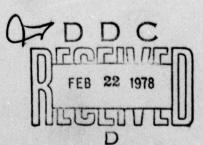
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Gerald G. Brown

October 1977

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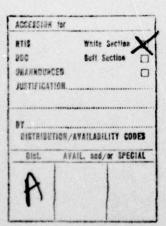
A TABLE OF LANCHESTER-CLIFFORD-SCHLÄFLI FUNCTIONS

by

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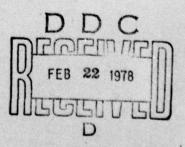


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1. Introduction

Lanchester-type* differential-equation combat models are an important tool for analyzing many important problems of military operations research. In such a combat model, a so-called attrition-rate coefficient represents the fire effectiveness of a particular weapon-system type against a particular target type, i.e. the weapon-system type's effective firepower against such a target. Time-dependent attrition-rate coefficients are used to model temporal variations in firepower on the battlefield. Thus, we see that time-dependent attrition-rate coefficients are important (and, in fact, essential [4-6]) for the quantitative analysis of hypothetical combat.

Militarily realistic computer-based Lanchester-type models of quite complex military systems have been developed for almost the entire spectrum of combat operations, from combat between battalion-sized units to theater-level operations. Nevertheless, a simple combat model may yield a clearer understanding of significant interrelationships that are difficult to perceive in a more complex model, and such insights can subsequently provide valuable guidance for more detailed computerized investigations. In this report we consider such a simplified variable-coefficient Lanchester-type model of combat between two homogeneous forces.

For this variable-coefficient Lanchester-type model of combat between two homogeneous forces, different functional forms for the attrition-rate coefficients lead to different mathematical functions being involved in representing and computing the force-level trajectories. In a previous paper [5] we have discussed the plausibility of the hypothesis that except for the special case of a constant ratio of attrition-rate coefficients,

So-called after pioneering work of F. W. Lanchester [3].

the solutions to such differential equations cannot be represented in terms of "elementary" functions of analysis. Thus, new transcendental functions arise in the study of combat modelled with time-dependent attrition-rate coefficients. In particular, we have previously introduced [5-6] so-called Lanchester-Clifford-Schläfli (LCS) functions for analyzing combat modelled with power attrition-rate coefficients with "no offset" (see Section 3 below).

In the Appendix to this report is contained the most extensive set of tables currently available for the LCS functions: it contains tables of five-decimal-place values of the hyperbolic-like LCS functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and $T_{\alpha}(x)$ (see Section 4 below) for 25 fractional values of α (see Section 6 below). The main body of this report provides the theoretical and modelling background for the use of these tables. In particular, we examine a model of a constant-speed attack on a static defensive position and show how associated range-dependent kill rates give rise to time-dependent attrition-rate coefficients with "no offset." Numerical computations are presented to illustrate the use of the LCS functions for analyzing such "aimed-fire" combat. As a consequence of the availability of these tables, one can now study this variable-coefficient combat model almost as easily and thoroughly as Lanchester's classic constant-coefficient model.

2. Variable-Coefficient Lanchester-Type Equations of Modern Warfare.

We consider combat between two homogeneous forces modelled by the following variable-coefficient Lanchester-type [3] (see [4,5]) equations of modern warfare

$$\begin{cases} \frac{dx}{dt} = -a(t)y & \text{with } x(0) = x_0, \\ \\ \frac{dy}{dt} = -b(t)x & \text{with } y(0) = y_0, \end{cases}$$
 (2.1)

where t = 0 denotes the time at which the battle begins, x(t) and y(t) denote the numbers of X and Y at time t, and a(t) and b(t) denote time-dependent Lanchester attrition-rate coefficients, which represent the effectiveness of each side's fire. These coefficients depend on variables such as force separation, tactical posture of targets, rate of target acquisition, firing rate, etc. (see [4-7] for further details). Variable attrition-rate coefficients are used to model temporal variations in firepower on the battlefield. In any analysis of combat, moreover, we should use the above equations (2.1) only for x and $y \ge 0$ and, for example, set dx/dt = 0 when x = 0, since negative force levels have no physical meaning.

Mathematically, we assume that the attrition-rate coefficients a(t) and b(t) are defined, positive, and continuous for $t_0 < t < +\infty$ with $t_0 \le 0$. We also assume that a(t) and $b(t) \in L(t_0,T)$ for any finite $T \ge t_0$. We further take a(t) and b(t) to be given in the form

$$a(t) = k_a g(t)$$
, and $b(t) = k_b h(t)$, (2.2)

where k_a and k_b are positive constants chosen so that $a(t)/b(t) = k_a/k_b$ when $g(t) \equiv h(t)$. We introduce the combat-intensity parameter λ_I and the relative-fire-effectiveness parameter λ_R defined by

$$\lambda_{\rm I} = \sqrt{k_a k_b}$$
, and $\lambda_{\rm R} = k_a / k_b$. (2.3)

From our assumptions about a(t) and b(t), it follows that, for example, $a(t) \notin L(t_0,T)$ implies $\int_{t_0}^{T} a(t)dt = +\infty$.

The X force level as a function of time may be represented as [5,6]

$$x(t) = x_0 \{ c_{\underline{X}}(0) c_{\underline{X}}(t) - s_{\underline{Y}}(0) s_{\underline{X}}(t) \} - y_0 \sqrt{\lambda_R} \{ c_{\underline{X}}(0) s_{\underline{X}}(t) - s_{\underline{X}}(0) c_{\underline{X}}(t) \}, \quad (2.4)$$

where the hyperbolic-like general Lanchester functions (GLF) $C_X(t)$ and $S_X(t)$ are linearly-independent solutions to the X force-level equation

$$\frac{d^2x}{dt^2} - \left\{ \frac{1}{a(t)} \frac{da}{dt} \right\} \frac{dx}{dt} - a(t)b(t)x = 0 , \qquad (2.5)$$

with initial conditions

$$c_{X}(t_{0}) = 1 , s_{X}(t_{0}) = 0 , (2.6)$$

$$\{1/a(t_{0})\} dc_{X}/dt(t_{0}) = 0 , \{1/a(t_{0})\} ds_{X}/dt(t_{0}) = 1/\sqrt{\lambda_{R}} .$$

Here t_0 denotes the largest finite time at which a(t) or b(t) ceases to be defined, positive, or continuous. The Y force level as a function of time is given by a similar expression, with $C_Y(t)$ and $S_Y(t)$ being analogously defined for the corresponding Y force-level equation.

It is sometimes convenient to introduce the new independent variable $\boldsymbol{\tau}$ defined by

$$\tau = \int_{t_0}^{t} \sqrt{a(s)b(s)} ds . \qquad (2.7)$$

It is readily seen that the transformation $\tau = \tau(t)$ is well defined and invertible. Let us denote $\tau(0)$ as τ_0 . We observe that $t_0 \le 0$ implies that $\tau_0 \ge 0$. If we denote the "average intensity of combat" as $\sqrt{a(t)b(t)}$, then

$$\sqrt{a(t)b(t)} \ t = \{(1/t) \int_{0}^{t} \sqrt{a(s)b(s)} \ ds\}t = \tau - \tau_{0} \ . \tag{2.8}$$

The substitution (2.7) transforms (2.5) into

$$\frac{d^2x}{d\tau^2} - (\frac{1}{2}) \left\{ \frac{d}{d\tau} \quad \ln R(\tau) \right\} \frac{dx}{d\tau} - x = 0 , \qquad (2.9)$$

with initial conditions

$$x(\tau_0) = x_0$$
, and $\{1/\sqrt{R(\tau_0)}\} dx/d\tau(\tau_0) = -y_0$,

where $R(\tau) = a(t)/b(t)$.

3. Combat Modelled with Power Attrition-Rate Coefficients.

The above equations (2.1) basically apply to "aimed-fire" combat when target-acquisition times do not depend on the numbers of targets available (see [5,6] for further details). A large class of tactical situations of interest can be modelled with the following general power attrition-rate coefficients [5-7]

$$a(t) = k_a(t + C)^{\mu}$$
, and $b(t) = k_b(t + C + A)^{\nu}$, (3.1)

where A and C \geq 0. We will call A the offset parameter, since it allows us to model (with μ and $\nu \geq$ 0) battles between opposing weapon systems with different maximum effective ranges (see [5,6]). We will call C the starting parameter, since it allows us to model (again, with μ and $\nu \geq$ 0) battles that begin within the maximum effective ranges of the two opposing systems. We observe that for the general power attrition-rate coefficients (3.1) we have $t_0 = -C$, and μ and ν must be ν 1 in order that μ and ν and ν and ν b(t) ν L(t₀,T).

The above nomenclature is motivated and possible applications of our work are indicated by considering S. Bonder's model of the constant-speed attack on a static defensive position (see [4-7] for further details)

$$\frac{dx}{dt} = -\alpha(r)y$$
, and $\frac{dy}{dt} = -\beta(r)x$, (3.2)

where r denotes the range between opposing forces, and $\alpha(r)$ and $\beta(r)$ denote range-dependent attrition-rate coefficients. Range is related to time by

$$r(t) = R_0 - vt$$
, (3.3)

where R_0 denotes the opening range of battle and v > 0 denotes the constant attack speed. For example, let us consider the constant-speed attack of a homogeneous Y force against the static defensive position of a homogeneous X force. Figure 1 diagrammatically portrays this situation.

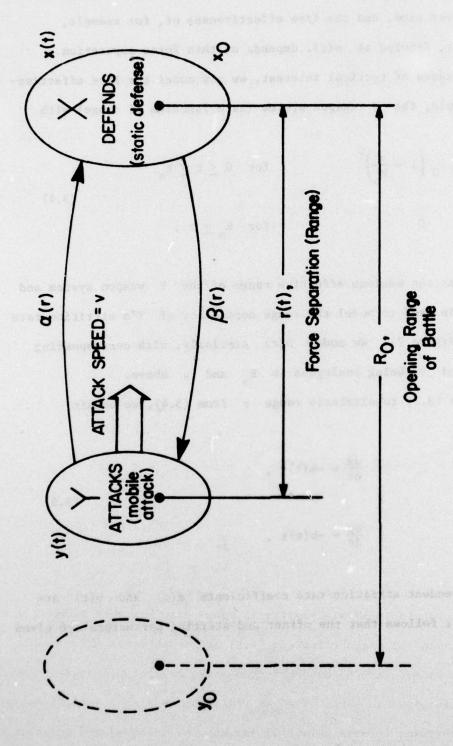


Figure 1. Diagram of Bonder's constant-speed attack model. Force separation, r(t), is given by $r(t) = R_0 - vt$.

The basic idea is that force separation, i.e. range between the opposing forces, changes over time, and the fire effectiveness of, for example, a single Y firer, denoted as $\alpha(r)$, depends on this force separation.

In many cases of tactical interest, we may model the fire effectiveness of, for example, the Y weapon system (as a function of range) with

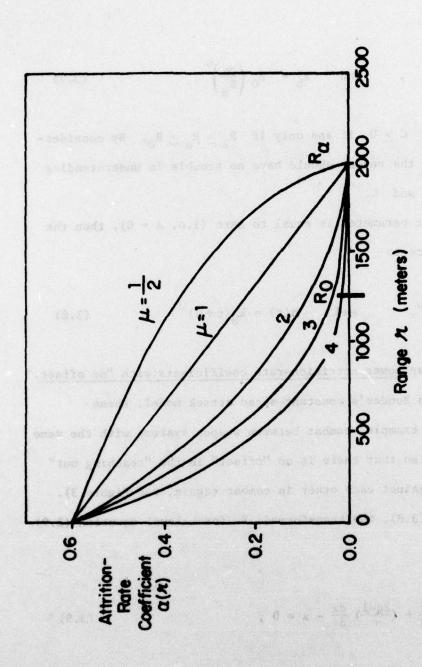
$$\alpha(\mathbf{r}) = \begin{cases} \alpha_0 \left(1 - \frac{\mathbf{r}}{R_{\alpha}}\right)^{\mu} & \text{for } 0 \leq \mathbf{r} \leq R_{\alpha}, \\ 0 & \text{for } R_{\alpha} \leq \mathbf{r}, \end{cases}$$
(3.4)

where R_{α} denotes the maximum effective range of the Y weapon system and $\mu \geq 0$. Here μ is used to model the range dependency of Y's attrition-rate coefficient (see Figure 2). We model $\beta(r)$ similarly, with corresponding quantities R_{β} and ν being analogous to R_{α} and μ above.

If we use (3.3) to eliminate range r from (3.4), we obtain

$$\begin{cases} \frac{dx}{dt} = -a(t)y, \\ \frac{dy}{dt} = -b(t)x, \end{cases}$$
 (3.5)

where the time-dependent attrition-rate coefficients a(t) and b(t) are given by (3.1). It follows that the offset and starting parameters are given by



range of battle is denoted as $\rm R_0$ = 1250 meters and (as shown) $\rm R_0$ < $\rm R_{_{\rm O}}$.] casualties/(unit time * number of Y firers) denotes the weapon-system Dependence of Y's attrition-rate coefficient a(r) on the exponent u zero range held constant. [NOTES: 1. The maximum effective range of with the maximum effective range of the weapon system and kill rate at kill rate for Y at zero force separation (range). 3. The opening the system is denoted as R = 2000 meters. 2. $\alpha(0) = \alpha_0 = 0.6 \mathrm{X}$ Figure 2.

$$A = \left(\frac{R_{\beta} - R_{\alpha}}{v}\right)$$
, and $C = \left(\frac{R_{\alpha} - R_{0}}{v}\right)$, (3.6)

and that

$$k_a = \alpha_0 \left(\frac{v}{R_\alpha}\right)^{\mu}$$
, and $k_b = \beta_0 \left(\frac{v}{R_\beta}\right)^{\nu}$. (3.7)

We observe that A and C \geq 0 if and only if $R_{\beta} \geq R_{\alpha} \geq R_{0}$. By considering (3.6) and Figure 3, the reader should have no trouble in understanding our terminology for A and C.

When the offset parameter is equal to zero (i.e. A = 0), then the coefficients (3.1) reduce to

$$a(t) = k_a(t+C)^{\mu}$$
, and $b(t) = k_b(t+C)^{\nu}$. (3.8)

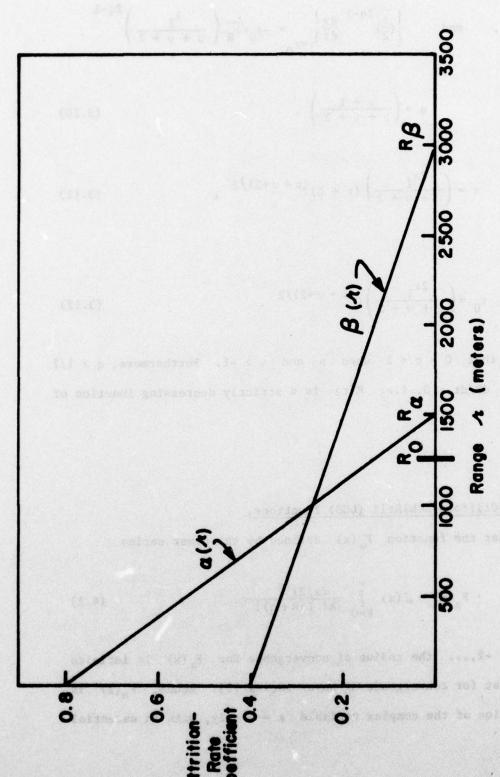
We will refer to (3.8) as power attrition-rate coefficients with "no offset."

As we have seen above in Bonder's constant-speed attack model, these coefficients model, for example, combat between weapon systems with the same maximum effective range so that there is no "offset" in the "reaching out" of the weapon systems against each other in combat (again, see Figure 3).

For these coefficients (3.8), the transformed X force-level equation (2.9) becomes

$$\frac{d^2x}{d\tau^2} + (\frac{2q-1}{\tau}) \frac{dx}{d\tau} - x = 0 , \qquad (3.9)$$

with initial conditions



11

Rg, respectively. 2. The opening range of battle is denoted as Ro and (as shown) Figure 3. Explanation of the offset parameter A and the starting parameter C for power attrition-rate coefficients modelling constant-speed attack. [NOTES: 1. The maximum effective ranges of the X and Y weapon systems are denoted as R $_{\alpha}$ $R_0 < \min(mum(R_\alpha, R_\beta)$. 3. The offset parameter is given by $A = (R_\beta - R_\alpha)/v$. The starting parameter is given by $C = (R_{\alpha} - R_{0})/v$.]

$$x(\tau_0) = x_0$$
, and $\left\{ (\frac{\tau}{2})^{2q-1} \frac{dx}{d\tau} \right\}_{\tau=\tau_0} = -y_0 \sqrt{\lambda_R} \left(\frac{\lambda_I}{\mu + \nu + 2} \right)^{2q-1}$.

Here

$$q = \left(\frac{\nu + 1}{\mu + \nu + 2}\right) , \qquad (3.10)$$

$$\tau = \left(\frac{2\lambda_{I}}{\mu + \nu + 2}\right) (t + C)^{(\mu + \nu + 2)/2} , \qquad (3.11)$$

and

$$\tau_0 = \left(\frac{2\lambda_1}{\mu + \nu + 2}\right) c^{(\mu + \nu + 2)/2} . \qquad (3.12)$$

Let us observe that 0 < q < 1 when μ and $\nu > -1$. Furthermore, q > 1/2 if and only if dR/dt < 0, i.e. R(t) is a strictly decreasing function of time.

4. Lanchester-Clifford-Schläfli (LCS) Functions.

Consider the function $F_{\alpha}(x)$ defined by the power series

$$F_{\alpha}(x) = \Gamma(\alpha) \sum_{k=0}^{\infty} \frac{(x/2)^{2k}}{\{k! \ \Gamma(k+\alpha)\}}. \tag{4.1}$$

For $\alpha \neq 0$, -1, -2,... the radius of convergence for $F_{\alpha}(x)$ is infinite by the ratio test for convergence of power series [2]. Hence, $F_{\alpha}(z)$ is an entire function of the complex variable z = x + iy, with an essential

singularity at the point at infinity. Now consider the function $H_{\alpha}(x)$ defined by the infinite series

$$H_{\alpha}(x) = \Gamma(\alpha) \sum_{k=0}^{\infty} \frac{(x/2)^{2(k+\alpha)}}{\{k! \ \Gamma(k+\alpha+1)\}}$$
 (4.2)

Observing that

$$H_{\alpha}(x) = (1/\alpha)(x/2)^{2\alpha} F_{\alpha+1}(x)$$
, (4.3)

we see that for $\alpha > 0$ the infinite series (4.2) is uniformly convergent on compact subsets of the complex plane. From (4.3) one can readily deduce the recursive relation

$$F_{\alpha}(x) = F_{\alpha+1}(x) + \left\{ \frac{(x/2)^2}{\alpha(\alpha+1)} \right\} F_{\alpha+2}(x)$$
 (4.4)

We will call the functions $F_{\alpha}(x)$ and $H_{\alpha}(x)$ <u>Lanchester-Clifford-Schläfli</u> (LCS) functions (see Note 10 on pp. 66-67 of [5]). Other properties are readily deduced and are given in Table I.

The function $F_{\alpha}(x)$ satisfies the linear second-order ordinary differential equation

$$\frac{d^2 F_{\alpha}}{dx^2} + (\frac{2\alpha - 1}{x}) \frac{d F_{\alpha}}{dx} - F_{\alpha} = 0 , \qquad (4.5)$$

with initial conditions

Table I. Properties of the LCS Functions $F_{\alpha}(x)$ and $H_{\alpha}(x)$.

1.
$$dF_{\alpha}/dx = (x/2)^{1-2\alpha}H_{\alpha}(x)$$

2.
$$dH_{\alpha}/dx = (x/2)^{2\alpha-1}F_{\alpha}(x)$$

3.
$$F_{\alpha}(x)F_{1-\alpha}(x) - H_{\alpha}(x)H_{1-\alpha}(x) = 1 \quad \forall x$$
where α is not an integer (including zero)

4.
$$F_{\alpha}(x=0) = 1$$

5.
$$H_{\alpha}(x=0) = 0$$
 for $\alpha > 0$

6.
$$dF_{\alpha}/dx(x=0) = 0$$

7.
$$\{(x/2)^{1-2\alpha}dH_{\alpha}/dx\}_{x=0} = 1$$

8.
$$F_{1/2}(x) = \cosh x$$

we represent the second set of the second set

9.
$$H_{1/2}(x) = \sinh x$$

$$F_{\alpha}(0) = 1$$
, and $\frac{dF_{\alpha}}{dx}(0) = 0$,

while H (x) satisfies

$$\frac{d^{2}H_{\alpha}}{dx^{2}} - (\frac{2\alpha - 1}{x}) \frac{dH_{\alpha}}{dx} - H_{\alpha} = 0 , \qquad (4.6)$$

with initial conditions

$$H_{\alpha}(0) = 0$$
, and $\left\{ \left(\frac{x}{2}\right)^{1-2\alpha} \frac{dH_{\alpha}}{dx} \right\}_{x=0} = 1$.

Thus, $\{F_{\alpha}, H_{1-\alpha}\}$ is a fundamental system of solutions to

$$\frac{d^2F}{dx^2} + (\frac{2\alpha - 1}{x}) \frac{dF}{dx} - F = 0 , \qquad (4.7)$$

with Wronskian $W(F_{\alpha}, H_{1-\alpha}) = (x/2)^{1-2\alpha}$. It follows that the GLF for the X and Y force-level equations for combat modelled with the attrition-rate coefficients (3.8) are given by

$$C_{X}(t) = F_{q}(\tau(t)), \quad S_{X}(t) = \left(\frac{\lambda_{I}}{\mu + \nu + 2}\right)^{2q-1} H_{p}(\tau(t)), \quad (4.8)$$

$$C_{Y}(t) = F_{p}(\tau(t)), \quad S_{Y}(t) = \left(\frac{\lambda_{I}}{\mu + \nu + 2}\right)^{1-2q} H_{q}(\tau(t)), \quad (4.9)$$

where p = 1-q. If we define

$$T_{\alpha}(x) = H_{1-\alpha}(x)/F_{\alpha}(x)$$
, (4.10)

then

$$T_{X}(t) = \frac{S_{X}(t)}{C_{X}(t)} = \left(\frac{\lambda_{I}}{\mu + \nu + 2}\right)^{2q-1} \frac{H_{p}(\tau(t))}{F_{q}(\tau(t))},$$
 (4.11)

or

$$T_{X}(t) = \left(\frac{\lambda_{I}}{\mu + \nu + 2}\right)^{2q-1} T_{q}(\tau(t)),$$
 (4.12)

where $T_X(t)$ denotes a hyperbolic-like GLF, which corresponds to the hyperbolic tangent. Observing that for μ , $\nu > -1$, $\lim_{\tau \to +\infty} \tau(t) = +\infty$, we see that $T_{\alpha}(x)$ is a strictly increasing function of x on the interval $[0, +\infty)$ and

$$0 \le T_{\alpha}(x) < \frac{\Gamma(1-\alpha)}{\Gamma(\alpha)}$$
 for $0 \le x < +\infty$, (4.13)

with

$$\lim_{x \to +\infty} T_{\alpha}(x) = \frac{\Gamma(1-\alpha)}{\Gamma(\alpha)}, \qquad (4.14)$$

since by the results of Taylor and Comstock [7] the parity-condition parameter $Q^* = Q^*(\mu, \nu, C = 0)$ is given by

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$$\lim_{t\to +\infty} T_{X}(t) = \frac{1}{Q^{*}(\mu, \nu, 0)} = \left(\frac{\lambda_{I}}{\mu + \nu + 2}\right)^{2q-1} \frac{\Gamma(p)}{\Gamma(q)}. \tag{4.15}$$

We recall that Taylor and Comstock [7] have introduced the socalled parity-condition parameter Q* as the value (or range of such values) for the initial condition Q to the initial-value problem

$$\begin{cases} \frac{dE_{X}^{-}}{dt} = -\frac{1}{\sqrt{\lambda_{R}}} a(t)E_{Y}^{-} & \text{with } E_{X}^{-}(t_{0}) = 1, \\ \\ \frac{dE_{Y}^{-}}{dt} = -\sqrt{\lambda_{R}} b(t)E_{X}^{-} & \text{with } E_{Y}^{-}(t_{0}) = Q, \end{cases}$$

$$(4.16)$$

such that $E_X^-(t;Q^*)$ and $E_Y^-(t;Q^*) > 0$ for all $t \ge t_0$. In other words, Q^* is the value of Q in (4.16) above such that neither E_X^- nor E_Y^- ever become zero. In this case, both $E_X^-(t;Q^*)$ and $E_Y^-(t;Q^*)$ are positive, strictly decreasing functions, similar to decreasing exponentials. Thus, we may call Q^* "the Y equivalent of an X force of unit strength," since the forces are "at parity," with neither force being annihilated in finite time. Taylor and Comstock have shown that for either $a(t) \notin L(0, +\infty)$ or $b(t) \notin L(0, +\infty)$, then Q^* is unique and given by

$$\lim_{t \to +\infty} \frac{S_{X}(t)}{C_{X}(t)} = \frac{1}{Q^{*}} . \tag{4.17}$$

The significance of the parity-condition parameter Q* is that it allows us to predict force annihilation as the following theorem shows.

THEOREM 1 (Taylor and Comstock [7]): Assume that either $a(t) \notin L(0, +\infty)$ or $b(t) \notin L(0, +\infty)$. Then the X force will be annihilated in finite time if and only if

$$\frac{x_0}{y_0} < \sqrt{\lambda_R} \left\{ \frac{C_X(0) - Q^*S_X(0)}{Q^*C_Y(0) - S_Y(0)} \right\} . \tag{4.18}$$

5. Use of LCS Functions for Analyzing Combat.

The Lanchester-Clifford-Schläfli (LCS) functions $F_{\alpha}(x)$ and $H_{\alpha}(x)$ are useful for analyzing "aimed-fire" combat (see Section 3 above) modelled with the power attrition-rate coefficients with "no offset" (3.8), which we rewrite here as

$$a(t) = k_a(t + C)^{\mu}$$
, and $b(t) = k_b(t + C)^{\nu}$. (5.1)

In other words, the LCS functions arise in solving the differential combat model (2.1) with attrition-rate coefficients (5.1). In order that both a(t) and $b(t) \in L(t_0,T)$, we must have μ and $\nu > -1$. Military situations modelled by these equations have been discussed in Section 3 above, e.g. combat between two weapon systems with the same maximum effective range. For such combat, the LCS functions may be used to

- (1) compute force-level declines,
- (2) predict force annihilation,

and (3) predict the time of force annihilation.

Let us now see how the LCS functions may be used to obtain the above information about force-level declines and force-annihilation prediction. According to (2.4), (4.8), and (4.9) above, the X force level is given by

where q is given by (3.10), p = 1-q, and $\tau(t)$ is given by (3.11), which we rewrite as

$$\tau(t) = \left(\frac{2\lambda_{\rm I}}{\mu + \nu + 2}\right) (t + C)^{(\mu + \nu + 2)/2} . \tag{5.3}$$

The time to annihilate the X force* is determined by $x(t_a^X) = 0$, and it follows that

$$T_{q}(\tau(t_{a}^{X})) = \frac{x_{0}F_{p}(\tau_{0}) + y_{0}\sqrt{\lambda_{R}}\left(\frac{\lambda_{I}}{\mu + \nu + 2}\right)^{q-p}H_{p}(\tau_{0})}{x_{0}H_{q}(\tau_{0}) + y_{0}\sqrt{\lambda_{R}}\left(\frac{\lambda_{I}}{\mu + \nu + 2}\right)^{q-p}F_{q}(\tau_{0})},$$
 (5.4)

where from (4.10)

$$T_q(\tau(t)) = H_p(\tau(t))/F_q(\tau(t))$$
, (5.5)

and we recall that p + q = 1. It follows that the time to annihilate X, t_a^X , is given by

$$x(t) y(t) = x_0 y_0 - \int_0^t \{a(s) y^2(s) + b(s) x^2(s)\} ds$$
,

which shows that x(t) and y(t) can have at most one finite zero. Hence, if $x(t^X) = 0$, then we know that y(t) > 0 for all $t \ge 0$.

^{*}If we multiply the first equation of (2.1) by y, the second by x, add, and integrate, we obtain

$$t_{a}^{X} = \tau^{-1} \left\{ T_{q}^{-1} \left[\frac{x_{0}F_{p}(\tau_{0}) + y_{0}\sqrt{\lambda_{R}} \left(\frac{\lambda_{I}}{\mu + \nu + 2} \right)^{q-p} H_{p}(\tau_{0})}{x_{0}H_{q}(\tau_{0}) + y_{0}\sqrt{\lambda_{R}} \left(\frac{\lambda_{I}}{\mu + \nu + 2} \right)^{q-p} F_{q}(\tau_{0})} \right] \right\} . \quad (5.6)$$

Taylor and Comstock [7] have shown that $T_q(\tau)$ is strictly increasing and satisfies (see also (4.12) above)

$$0 \leq T_{q}(\tau) < \Gamma(p)/\Gamma(q) , \qquad (5.7)$$

where p=1-q. It follows that in order for X to be annihilated in finite time, the right-hand side of (5.4) must be less than $\Gamma(p)/\Gamma(q)$. Let us observe that for $t_0=-C=0$, (5.4) simplifies to

$$T_{q}(\tau(t_{a}^{X})) = \frac{x_{0}}{y_{0}\sqrt{\lambda_{R}}} \left(\frac{\lambda_{I}}{\mu + \nu + 2}\right)^{p-q} . \qquad (5.8)$$

Thus, we have proved the following theorem concerning forceannihilation prediction.

THEOREM 2: Consider combat between two homogeneous forces modelled by (2.1) with power attrition-rate coefficients (5.1). Assume that μ and $\nu > -1$ and that the above equations hold for all time. Then the X force will be annihilated in finite time if and only if

$$\Gamma(q) \left\{ x_0 F_p(\tau_0) + y_0 \sqrt{\lambda_R} \left(\frac{\lambda_I}{\mu + \nu + 2} \right)^{q-p} H_p(\tau_0) \right\}$$

$$< \Gamma(p) \left\{ x_0 H_q(\tau_0) + y_0 \sqrt{\lambda_R} \left(\frac{\lambda_I}{\mu + \nu + 2} \right)^{q-p} F_q(\tau_0) \right\}, \qquad (5.9)$$

where $q = (v + 1)/(\mu + v + 2)$ and p = 1-q. For $t_0 = 0$ (i.e. C = 0 so that $\tau_0 = 0$), X will be annihilated in finite time if and only if

$$\frac{x_0}{y_0} < \frac{\Gamma(p)}{\Gamma(q)} \sqrt{\lambda_R} \left(\frac{\lambda_I}{\mu + \nu + 2} \right)^{q-p} \qquad (5.10)$$

6. Tabulation of LCS Functions.

This report contains the most extensive set of tables of the Lanchester-Clifford-Schläfli functions currently available. The Appendix contains tables of five-decimal-place values of the hyperbolic-like LCS functions $\mathbf{F}_{\alpha}(\mathbf{x})$, $\mathbf{H}_{1-\alpha}(\mathbf{x})$, and $\mathbf{T}_{\alpha}(\mathbf{x})$ for various values of the argument \mathbf{x} , namely $\mathbf{x}=0.00$ (0.01) 2.00 (0.1) 10.0, and $\alpha=1/2$, 1/3, 2/3, 1/4, 3/4, 1/5, 2/5, 3/5, 4/5, 2/7, 3/7, 4/7, 5/7, 4/9, 5/9, 3/11, 5/11, 6/11, 8/11, 5/13, 8/13, 5/17, 12/17, 5/21, and 16/21. These values of the index α correspond to μ , $\nu=0$, 1/4, 1/2, 1, 1 $\frac{1}{2}$, 2, and 3 in (3.8) and allow one to analyze, for example, a fairly wide variety of range capabilities for weapon systems in the constant-speed-attack model of Section 3. These

tables have been calculated by the recursive means given in Section 8 of [5]. A less extensive tabulation (namely, for $\alpha = 1/2$, 1/3, 2/3, 1/4, 3/4, 1/5, 2/5, 3/5, 4/5, 3/7, and 4/7 corresponding to μ , $\nu = 0$, 1, 2, 3) is to be found in a companion report [8].

A representative tabulation of the hyperbolic-like LCS functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and $T_{\alpha}(x)$ is given in, for example, Tables 8A and 8B of the Appendix for $\alpha=3/5$. The values of the argument x are the same as those used for the tabulation of the hyperbolic functions by Abramowitz and Stegun [1]. We observe from Table 8B and (4.13) that the limiting value of $T_{\alpha}(x)$ as $x \to +\infty$ (here $\alpha=3/5$) is quickly reached, with three-decimal-place accuracy already attained for x=4.5. Moreover, the use of these tables (specifically, Tables 8A and 8B of the Appendix) for combat analysis is illustrated in the next section.

7. Numerical Examples

In this section we examine a couple of numerical examples to show some of the insights that may be gained into the dynamics of combat between two homogeneous forces from our results (see also [6]). These examples illustrate the use of the LCS functions $F_{\alpha}(\mathbf{x})$, $H_{1-\alpha}(\mathbf{x})$, and $T_{\alpha}(\mathbf{x})$ for analyzing "aimed-fire" combat modelled with the power attrition-rate coefficients with "no offset" (5.1). As in [4-7], we consider S. Bonder's model (3.2) for the constant-speed attack against a static defensive position. We will focus on the use of the LCS functions for predicting force annihilation, since the computing of force-level trajectories with Lanchester functions is adequately handled elsewhere (see [4-5]).

Let us accordingly consider the constant-speed attack of a homogeneous Y force against the static defensive position of a homogeneous X force (see Section 3 above for further modelling details, especially Figure 1). For our numerical computations, we assume that the fire effectiveness of the Y weapon system varies linearly with range, i.e.

$$\alpha(\mathbf{r}) = \begin{cases} \alpha_0 \left(1 - \frac{\mathbf{r}}{R_{\alpha}}\right) & \text{for } 0 \le \mathbf{r} \le R_{\alpha}, \\ 0 & \text{for } R_{\alpha} \le \mathbf{r}, \end{cases}$$
 (7.1)

and that the fire effectiveness of the X weapon system varies quadratically with range, i.e.

$$\beta(\mathbf{r}) = \begin{cases} \beta_0 \left(1 - \frac{\mathbf{r}}{R_{\beta}}\right)^2 & \text{for } 0 \le \mathbf{r} \le R_{\beta}, \\ 0 & \text{for } R_{\beta} \le \mathbf{r}, \end{cases}$$
(7.2)

with $R_{\alpha}=R_{\beta}$, i.e. both weapon systems have the same maximum effective range. In other words, $\mu=1$ in (3.4) and $\nu=2$ for $\beta(r)$. We consider a battle modelled by the input data given in Table II. In terms of time as the independent variable, the attrition-rate coefficients (7.1) and (7.2) become via (3.3)

$$a(t) = k_a(t + C)$$
 and $b(t) = k_b(t + C)^2$, (7.3)

Table II. Input Data for Numerical Examples

u = 1, v = 2

 $\alpha_0 = 0.06 \text{ X casualties/minute/Y firer}$

 $\beta_0 = 0.6 \text{ Y casualties/minute/X firer}$

 $R_{\alpha} = R_{\beta} = 2000 \text{ meters}$

v = 5 miles/hour

where $R_{\alpha} = R_{\beta}$,

$$c = \frac{R_{\alpha} - R_0}{v}$$
, $k_a = \frac{\alpha_0 v}{R_{\alpha}}$, and $k_b = \beta_0 \left(\frac{v}{R_{\beta}}\right)^2$. (7.4)

From the input data given in Table II, we compute the parameter values shown in Table III, since the transformed X force-level equation is given by (3.9) with $q = (v + 1)/(\mu + v + 2)$, p = 1-q, $\mu = 1$, and v = 2. Thus, the X force level may be computed with $F_{\alpha}(\tau)$ and $H_{1-\alpha}(\tau)$ with $\alpha = q = 3/5$. Force-annihilation prediction involves the limiting value of $T_{\alpha}(\tau) = H_{1-\alpha}(\tau)/F_{\alpha}(\tau)$ as $\tau \to +\infty$. From Table 8B of the Appendix and Table III, we note the predicted agreement between $\Gamma(1-\alpha)/\Gamma(\alpha)$ and the limiting value of $T_{\alpha}(x)$ as $x \to +\infty$ [recall (4.13)] for $\alpha = q = 3/5$. We now consider two cases: (I) $R_0 = 2000$ meters, and (II) $R_0 = 1250$ meters.

When R_0 = 2000 meters (see Figure 3 of [4]), we have C = 0 and $T_0 = 0$. The maximum time that the battle can last is $t_{max} = R_0/v = 14.91$ minutes, since at this time the attackers reach their final objective, i.e. the defender's position (again, see Figure 1). We now consider the qualitative behavior of the $\mu = 1$, $\nu = 2$ force-level trajectory shown in Figure 3 of [4]. Theorem 2 tells us that the X force can be annihilated in finite time if and only if

$$\frac{x_0}{y_0} < \frac{\Gamma(p)}{\Gamma(q)} \sqrt{\lambda_R} \left(\frac{\lambda_I}{\mu + \nu + 2} \right)^{q-p} , \qquad (7.3)$$

where q = 3/5 and p = 1-q. Using the numerical values in Table III, we compute from (7.3) that the X force can be annihilated in finite time if and only if

Table III. Parameter Values for Numerical Examples

 $k_a = 4.0233 \times 10^{-3} \text{ X casualties/(minute)}^{\mu}/\text{Y firer}$

 $k_b = 2.6979 \times 10^{-3} \text{ Y casualties/(minute)}^{V/X} \text{ firer}$

p = 2/5, q = 3/5

 $\Gamma(p)/\Gamma(q) = 1.48951$

A = 0

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compared from (1.3) that the E Force and he adolbitated in finite time if

$$\frac{x_0}{y_0} < 0.420$$
 . (7.4)

When the X force can be annihilated, its annihilation time is given by (5.8), which we rewrite here as

$$T_{q}(\tau(t_{a}^{X})) = \frac{x_{0}}{y_{0}\sqrt{\lambda_{R}}} \left(\frac{\lambda_{I}}{\mu + \nu + 2}\right)^{p-q}, \qquad (7.5)$$

where

$$\tau(t) = \left(\frac{2\lambda_{I}}{\mu + \nu + 2}\right) t^{(\mu + \nu + 2)/2} . \qquad (7.6)$$

Thus, for the numerical values given in Table III, the time of annihilation of the X force is given by

$$T_q(\tau(t_a^X)) = 3.544 \frac{x_0}{y_0}$$
, (7.7)

with q = 3/5. We will now illustrate further computations for $x_0 = 10$ and $y_0 = 30$. From (7.4) we see that the X force can be annihilated in finite time (but we must verify that $t_a \le t_{max}$). In this case (7.7) becomes

$$T_q(\tau(t_a^X)) = 1.18122$$
 (7.8)

We must now determine $\tau(t_a^X)$ such that $\tau(t_a^X) = T_q^{-1}(1.18122)$ by using interpolation methods and Tables 8A and 8B. From Table 8A, we find

$$T_{q}(\tau) = 1.18172$$
 for = 1.01
 $T_{q}(\tau) = 1.17630$ for = 1.00

so that using linear interpolation, we obtain

$$\tau(t_{a}^{X}) = 1.009$$
, (7.9)

whence use of (7.6) yields

$$t_a^X = 14.24 \text{ minutes},$$
 (7.10)

which is less than t_{max} = 14.91 minutes so that the defending X force is indeed annihilated before the attacking Y force reaches its final objective. Since $r(t) = R_0 - vt$, we find that force separation at the instant of annihilation of the X force is

$$r_a^X = 89.8 \text{ meters}$$
 (7.11)

Further results may be computed in a similar fashion and are given in Table IV.

when R_0 = 1250 meters (see Figure 3 of [5]), we have C = 5.5923 minutes, $\tau_0 = 0.0975$, and $t_{max} = R_0/v = 9.32$ minutes. In this case

Theorem 2 tells us that the X force can be annihilated in finite time

if and only if

Table IV. Annihilation of the X Force as a Function of the Initial Force Ratio for $R_0 = 2000$ meters

(x_0/y_0)	t ^X (minutes)	r ^X (meters)
0.333	14.24	89.8
0.250	11.61	443.2
0.200	10.19	633.2

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$$\frac{x_0}{y_0} < \sqrt{\lambda_R} \left(\frac{\lambda_I}{\mu + \nu + 2} \right)^{q-p} \frac{\Gamma(p)}{\Gamma(q)} \frac{\left\{ F_q(\tau_0) - \frac{\Gamma(q)}{\Gamma(p)} H_p(\tau_0) \right\}}{\left\{ F_p(\tau_0) - \frac{\Gamma(p)}{\Gamma(q)} H_q(\tau_0) \right\}} , \qquad (7.12)$$

with q=3/5 and p=1-q. Using linear interpolation, we obtain from Tables 7A and 8A of the Appendix that for the numerical values of Table III

$$F_p(\tau_0) = 1.006$$
 , $H_q(\tau_0) = 0.044$,
$$(7.13)$$

$$F_q(\tau_0) = 1.004$$
 , $H_p(\tau_0) = 0.223$,

so that (7.12) says that the X force can be annihilated if and only if

$$\frac{x_0}{y_0} < 0.382$$
 (7.14)

When the X force can be annihilated, its annihilation time is given by (5.4), which we rewrite here as

$$T_{q}(\tau(t_{a}^{X})) = \frac{\left\{\frac{x_{0}}{y_{0}\sqrt{\lambda_{R}}} \left(\frac{\lambda_{I}}{\mu + \nu + 2}\right)^{p-q} F_{p}(\tau_{0}) + H_{p}(\tau_{0})\right\}}{\left\{F_{q}(\tau_{0}) + \frac{x_{0}}{y_{0}\sqrt{\lambda_{R}}} \left(\frac{\lambda_{I}}{\mu + \nu + 2}\right)^{p-q} H_{q}(\tau_{0})\right\}},$$
(7.15)

whence for the data of Table III

$$T_a(\tau(t_a^X)) = \frac{3.565u_0 + 0.223}{0.156u_0 + 1.004}$$
, (7.16)

where $u_0 = x_0/y_0$. Let us also record here that (3.11) yields

$$t = \left(\frac{\{\mu + \nu + 2\}\tau}{2\lambda_{\rm I}}\right)^{2/(\mu + \nu + 2)} - C. \qquad (7.17)$$

We will again illustrate further computations for $x_0 = 10$ and $y_0 = 30$. From (7.14) we see that the X force can be annihilated in finite time (but again we must investigate whether or not $t_a^X < t_{max}$). In this case (7.16) becomes

$$T_q(\tau(t_a^X)) = 1.33651$$
, (7.18)

whence Table 8A of the Appendix and linear interpolation yield

$$\tau(t_a^X) = 1.397$$
, (7.19)

so that by (7.17)

$$t_a^{X} = 10.63 \text{ minutes}. \tag{7.20}$$

Since $t_{max} = R_0/v = 9.32$ minutes $< t_a^X$, we see that the attacking Y force overruns the defender's position before annihilation of the X force occurs. Thus, the battle ends with $x_f = x(t_f) > 0$ and $y_f > 0$ at $t_f = t_{max} = 9.32$ minutes. Corresponding to $t_f = 9.32$ minutes is $\tau_f = 1.1318$, and then Table 8A of the Appendix yields

$$F_q(\tau_f = 1.1318) = 1.589$$
, $H_p(1.1318) = 1.973$, (7.21)

whence via (2.4), (4.8), (4.9), and (7.13) we obtain

$$x_f = x(t_f) = x(r = 0) = 1.35$$
 (7.22)

Some further numerical results are given in Table V. Again, these parametric results should be contrasted with the single μ = 1, ν = 2 force-level trajectory shown in Figure 3 of [5].

8. Final Remarks

In the previous section above, we have seen how the LCS functions allow one to conveniently obtain much valuable information about the model (2.1) with power attrition-rate coefficients (3.8) without having to explicitly compute the entire force-level trajectories. Previously we were limited to computing only force-level trajectories (see [4-5]). With the availability of these tabulations of LCS functions (see the Appendix of this report and [8]), we can now tell who is going to be annihilated and when this event will happen without having to compute the trajectories. Not only did we answer questions about the qualitative behavior of the model (e.g. force annihilation) for specific values of, for example, initial force levels but also for a range of values of the initial force ratio (i.e. parametric analysis of model behavior).

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Table V. Annihilation of the X Force as a Function of the Initial Force Ratio for $R_0 = 1250$ meters

(x_0/y_0)	t ^X (minutes)	ra (meters)
0.333	10.63	yadakli <u>er sol</u> to.
0.250	7.56	235.9
0.200	6.17	422.8

 $t_{\text{max}} = 9.32 \text{ minutes}$ and $x_{\text{f}} = x(r=0) = 1.35$.

The results of this report may be used for other parametric analyses, e.g. parametric dependence of battle outcome on attrition-rate coefficients. Thus, the contents of this report allow one to develop important insights into the dynamics of combat between two homogeneous forces with temporal variations in fire effectiveness. With the availability of tabulations of the LCS functions, one can now analyze such combat modelled by the power attrition-rate coefficients (3.8) with somewhat the same facility as he can for the constant-coefficient case and thus aid in parametric analyses. For further discussions of the significance of such results for military operations research, the reader is directed to [6] and [7].

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APPENDIX: Tabulation of the LCS Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and $T_{\alpha}(x)$ for $\alpha = 1/2$, 1/3, 2/3, 1/4, 3/4, 1/5, 2/5, 3/5, 4/5, 2/7, 3/7, 4/7, 5/7, 4/9, 5/9, 3/11, 5/11, 6/11, 8/11, 5/13, 8/13, 5/17, 12/17, 5/21, and 16/21.

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H _{1/2} (x) T _{1/2} (x)									1.79828 1.778828 1.778828 1.87947 1.884937 1.884
F1/2(%)	44444 44444 44444 64444	4444	11000	1.127.1	100 100 100 100 100 100 100 100 100 100	99046	1.98800	2.04044	2.0022 2.0022 2.0046 2.004643 2.1132 1.32643 1
(May 18 - 180)	90000	00000				11111	0-7E	1.34	* ************************************
T1/2(x)	00000	00000	00000 00000 00000 00000 00000 00000 00000	00000	00000	00000 44440 44400 44400 44400 44400 44400 44400	0000	0.6	0 00000
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T1/2(x)	00000	00000	#1400 #1400 #0400	00000	00000	200000	00000		00000
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F1/2(H)	99999	99999	88888		20000	28.25	4115		100000 100000 1000000
	•5006	00000			27777	20000	0-0-0-0-0	.35	****

TABLE 1A. Lanchester-Clifford-Schläfli Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and $T_{\alpha}(x)$ for $\alpha = 1/2$ and x from 0.00 to 1.50.

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-
-

0 - 1/2	T _{1/2} (x)	00000	00000	00000	00000	000000	00000	00000 00000 00000	00000	1.00000	
	H _{1/2} (x)	201.71316 222.92776 272.92776 272.28504 300.92169	332-57006 367-54691 406-20230 446-92309 496-13685	548.31612 605.98312 669.71501 740.14963 817.99191	904-02093 999-09770 1104-17377 1220-30078 1348-64098	1647.23389 1647.23389 1820.47502 2011.93607 2223.53326	2457.38432 27155.62970 3001.45603 3517.12193	4477-64190 4447-64190 4948-56448 5469-00956	0679-86338 7382-39075 8158-80357 9016-87244 9965-18519	11013.23267	
	F _{1/2} (x)	201.71564 222.93001 246.37554 272.28687 300.92335	332.57157 367.54827 406.20353 448.92420 496.13786	548.31704 605.98395 669.71576 740.15030 817.99252	904.02148 999.09820 1104.17422 1220.30119 1348.64135	1490-47916 1647-23419 2011-93632 2223-53349	2457-38452 2715-82989 3001-45619 3317-12208 3665-96684	4051.54203 4477.64640 4948.56458 5469.00965	0679-86345 7382-39085 8158-83363 9016-87249	11013.23292	
	* (1)	99999 0	*****	 	*****	0-24	00000 00000	0-0-0-0	00000 00000	0.01	
	T _{1/2} (x)	00000 00000 00000 00000	00000 00000 00000 00000 00000	40000 44000 44000 60000 00000	8-800 8-800	0.999955	20000000000000000000000000000000000000	0.99999	00000000000000000000000000000000000000	6.566.0	
	H _{1/2} (x)	64-44 64-44 64-44 64-44 64-44 64-44 64-44 64-44	6.05020 7.69473 7.191926 0.05954	10.001.001.001.001.001.001.001.001.001.	16.54263 20.21129 22.33941 24.69110	21.28992 30.16186 33.33567 36.84311 40.71930	45.00301 54.96904 60.75109 67.14117	74.20321 82.00321 90.63336 100.16591 110.7095	122.34392 135.21135 149.43203 165.14827 182.51736	201.71316	
	F1/2(R)	64 4400 64 4400 64 6400 64 6400 6400	6.13229 7.47341 1.2273 1.2273	10.000 11.000 13.000 14.0000 14.000 14.000 14.000 14.000 14.000 14.000 14.000 14.000 14.0000 14.000 14.000 14.000 14.000 14.000 14.000 14.000 14.000 14.0000 14.000 14.000 14.000 14.000 14.000 14.000 14.000 14.000 14.0000 14.000 14.000 14.000 14.000 14.000 14.000 14.000 14.000 14.0000 14.0000 14.000 14.000 14.000 14.000 14.000 14.000 14.000 14.000 14.0000 14.000 14.000 14.000 14.000 14.000 14.000 14.000 14.000 14.0000 14.000 14.000 14.000 14.000 14.000 14.000 14.000 14.000 14.0000 14.000 16.000 16.000 16.000 16.000 16.000 16.000 16.000 16.000 16.000	16-57282 20-23601 22-36178 24-71135	27.30823 30.17863 33.35066 36.8566	45.01412 54.978118 54.978118 67.75932 67.15932	74.20995 82.01400 90.63888 100.17090 110.70547	122-34-801 135-21505 149-43537 165-15129 182-52010		
			*****	mmmmm o⊶nm.+	wamma ******	ganna ganna	11111	2000000 0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-	wwww.	•	
T1/2(H)	n. 10 m	64000 64000 64000	7-9-2-9-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0	4215.00 807.00 807.00 807.00 807.00 90.00 90.00 90.00 90.00	00000	20000 2211	######################################	00000	00000	20000 20000	0.94403
H _{1/2} (x)	8-400 8-400		4444 60404 60404 6446 6446 6446 6446 64	200000 200000 200000 200000	20000 20000 20000	70000 20000 20000 20000	00000 00000 00000 00000	00000000000000000000000000000000000000	40000 40000 40000	3.55.44 9.55.44 9.55.55.00 4.85.55.00 4.85.00	3.62686
F1/2(X)	70.40 70.40 70.40 70.40 70.40	######################################	200000 200000 200000 200000 200000	20000 20000 20000 20000 20000 20000	N=054 2525 2525 Nnnnn	84657 64657 64657 64657 64657 64657 64657	200000 200000 200000 200000 200000	20-150 20		20000 20000 20000 20000 20000	3.7,220
	82323	2222	32333	23733	25555		22001	25.55	2500	*****	2.00

TABLE 1B. Lanchester-Clifford-Schläfli Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and $T_{\alpha}(x)$ for $\alpha = 1/2$ and x from 1.50 to 10.0.

and Lanchester-Clifford-Schläfli Functions $\mathbf{F}_{\alpha}(\mathbf{x})$, $\mathbf{H}_{1-\alpha}(\mathbf{x})$, to $T_{\alpha}(x)$

for

0 - 1/3	T _{1/3} (x)	00000	00000	00000	00000	00000 00000 00000 00000 00000 00000	00000 00000 00000 00000 00000 00000	000000	00000	0.50547	
	H _{2/3} (x)	223.40475 223.40475 247.63498 274.47872	304-21683 337-16083 373-65355 414-07770 458-85486	508.45229 563.38721 624.23263 766.25801	848.91694 940.45914 1041.83675 1154.10374 1278.42680	1416.09741 1568.54507 1737.35213 1924.27007 2131.23751	2360.40025 2614.13334 2895.06550 3206.10628 3550.47590	3931.73848 4353.83843 4821.14209 5338.48059 5911.20154	9845-22299 7247-09447 8024-06427 9884-15390 9836-24050	10890.14799	
	F _{1/3} (x)	359-65982 398-71187 441-97922 449-91515 543-02156	661-65414 667-02816 739-22482 819-19834 907-19330	1005.90533 1114.58667 1234.96073 1366.28181	1679.46784 1860.57158 2061.1333 2283.23826 2529.19452	2801.55706 31.03.15401 34.37.11.583 3806.90755 4216.36450	\$171.70827 \$127.49440 \$727.49440 \$342.84633	7778-41109 8613-47893 9537-97538 10561-45936 11694-51000	12948-83537 14337-39281 15874-52207 17576-09265 19459-66675	21544.67%5	
	×	9999	*****	0-144	20186	#####################################	000000 00000	0-Nm4	44444	10.0	
	T _{1/3} (x)	00000 4444 00000 00000	00000 90000 90000 90000 90000	00000 80000 80000 80000 80000 80000	00000 80000 800000 900000 900000 900000	00000 000000 0000000 00000000000000000	00000 84.000 84.0000 84.0000 84.0000 84.0000 84.0000	00000 80000 80000 800000 800000 800000 800000	00000 00000 00000 00000 00000 00000	0.5054	
	H _{2/3} (x)	20004 20004 20004 20004 20004		100-148-00 100-148-00	16-94 16-94 18-54 18-54 18-54 18-54 11-14	22.74186 25.26018 28.05289 31.14972	38.39105 47.29256 47.29256 52.48098 58.23262	71-67541 79-50854 88-19033 97-81231	100-47562 120-29309 133-39841 147-89943 163-97856	181.79454	
	F _{1/3} (x)	5.50984 6.50984 7.50986 8.186086	9-12445	15.61932 19.33319 21.50203 23.90917	26.56466 32.654665 32.633465 40.52366 40.52366	45.01920 49.99881 55.52151 61.64609	75.96846 94.31835 93.57590 103.83919 15.21685	127.82922 141.80955 157.30546 174.48042 193.51547	214-61111 237-98938 263-89617 292-60376 324-41368	359.65982	
	11.0×	0-NM+ 111111	******	o-Nm+		3333	1444	ณณณณ์ อาเกษา	พ.จะตอ พ.จะตอ	;	
T1/3(x)	00000 4444 60000 60000 60000	11111	00000 1111 00000	444	20000	4444	0000	00000 11111 10101	00000	00000	0.40780
H2/3(x)	2000	40000 60000 60000 60000	1.00	11.1000		00000	2000 2000 2000 2000 2000 2000 2000 200	25-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	2.29 2.39 2.39 2.39 2.39 2.40 4.09 4.09	44400 44400 44400 44400 44400 44400 44400	2.58494
F1/3(x)	201-10 406-30 504-40 504-50 50 504-50 50 504-50 50 504-50 50 504-50 50 50 50 50 50 50 50 50 50 50 50 50 5	******	4 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	2000	2000 2000 2000 2000 2000 2000 2000 200	12121	50000 50000 50000 50000 50000	10000 10000	4.58 6.50 6.50 6.50 6.50 6.50 6.50 6.50 6.50	**************************************	5.2983+
	8.000	20000	3-777	*****	2-2-2-2	22.22	2=221	20000	2-Nns	-	.00

TABLE 2B. Lanchester-Clifford-Schläfli Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and $T_{\alpha}(x)$ for $\alpha=1/3$ and x from 1.50 to 10.0.

1	12/3(4)	1.61230 1.62488 1.63103	1.654303 1.654803 1.65603 1.6503 1.6503	1.67140 1.68213 1.68736 1.69736	1.09756 1.70256 1.71228 1.71728	1.73672	1.75224 1.75632 1.75632 1.76033	1.76427	1.78851 1.79850 1.79950 1.79950	1.80020 1.80984 1.80982 1.81291	1.021899	1.83039
	H _{1/3} (X)	2.26370 2.30994 2.33326 2.33326 2.35579	2000 2000 2000 2000 2000 2000 2000 200	2.55292 2.55292 2.55292 2.55292 2.651392	2.65265 2.65250 2.76356 2.76388	2.7564 2.78902 2.80980 2.83680 2.6400	2.989 2.98691 2.94691 3.00328	3.00 3.00 3.00 3.00 3.10 4.00 5.00 5.00 5.00 5.00 5.00 5.00 5.0	3.23.0794 3.25.0794 3.25.007	WWW. WW. WW. WW. WW. WW. WW. WW.	######################################	3.65444
	F2/3(X)	1.42160	1.44 1.44 1.46 1.46 1.46 1.46 1.46 1.46	1.51665 1.51664 1.51664 1.51664 1.51664 1.51664	1.5572 1.55835 1.5791 1.5791 1.5791	1.62151		1.73094 1.74356 1.75635 1.75635	1.78234 1.80892 1.82242 1.83242	1.84989 1.86385 1.87796 1.90665	1.000 0.000	1.99654
	*	99999	24000		237.82	27777	**************************************			0-1-1-1-1 5+4+4 5+4+4	 44444 80000	1.50
2 (xx) 2 - 20	T2/3(X)	1.15151 1.15151 1.15456 1.17246 1.18985	1.226654 1.226654 1.256654 1.256654 1.256654	1.28192 1.28465 1.29576 1.30675	1.31757 1.338754 1.34913 1.35935	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	14444 44444 444644 454644 454644	1.444 1.47127 1.48809 1.49831	11.000 0.0000 0.00	1.55031 1.55031 1.55035 1.55035 1.57210		1.61230
	1/3()	1.26471	1.39676	1.45094 1.45096 1.45096 1.519453 1.519453	111111 1000000 10000000000000000000000	40494 6404 6404 6404 6404	1.72963 1.76963 1.76987 1.76012		1.93561 1.95561 2.99865 2.01956	22.22.22 1498011 1498011 1498011 1498011 1498011	22.23 22.23 22.23 20.24	2.26370
	*2/3(x)	10095	12499	11111111111111111111111111111111111111	11.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1	1.19061 1.20208 1.20706 1.21393	1.23245 1.23245 1.23245 2.33245 2.33245 2.33245 2.33245 2.33245 2.33245 2.33245 2.33245 2.33245 2.33245 2.33245 2.33245 2.33245 2.3324	1.25175 1.25840 1.27196	1.28595 1.29309 1.30034 1.30768	1.322 1.322 1.322 1.322 1.325	1. 34 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	1.40402
		ดูอกูอก อากพล อากพล	00000 800000 800000	00000	99999 99999 99999	טייייי פיייייי	50000	00000	00000 90000 00000	00000 00000	00000 00000 00000	1.00
3	2/3,	00000 00000 00000 00000 00000 00000 0000		00000	000000000000000000000000000000000000000	00000 14861 14822 1482 148	00.74126 00.74126 00.79120 00.	0.00	0.91778 0.91396 0.96994 0.96869	00000000000000000000000000000000000000	1.000 1.000	1.13637
3	1/3	10000 10000 10000 10000	00000 00000 000000 000000 000000	00000	00000	00000	00000	00000	0000	1.095109	1.15239	1.24711
3	. 2/3	00000	**************************************	00000	100000 200000 200000 200000	55.726 545.60 64	1002395 100245 100245 100245 100245 100245 100245 100245 100245 10024 10	00000	00000 00000 00000 00000 00000 00000	00000	00000	1.09552
		00000	55555	30000	99999	2222	50000	20000	55555	99799 31331	*****	C. 50

TABLE 3A. Lanchester-Clifford-Schläfli Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and $T_{\alpha}(x)$ for $\alpha = 2/3$ and x from 0.00 to 1.50.

	F2/3(x)	H _{1/3} (x)	T2/3(x)	SecCareer							9 - 2/3
52000	25.55 25.55	0.000 000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.	1.683913 1.683913 1.683913 1.683913 1.683913 1.683913	• 1	F _{2/3} (x)	H _{1/3} (x)	T _{2/3} (x)	* 1	F _{2/3} (x)	H _{1/3} (x)	T _{2/3} (x)
******	2.09237 2.109237 2.109237 2.109095	2000 2000 2000 2000 2000 2000 2000 200	90000	D-nm+	3-2010 3-2820 4-5-5816 5-5-5816 5-5-5816 5-5-5816 5-5-5816	5.78325 6.98479 7.6179 8.3525	1.093111 999954 9599554 1.093111	99999 9-1444	159-97149 157-80940 173-90999 191-94943	257-1282 212-20268 312-20268 344-0495 379-15061	11.09.10 10.00 10.
35394	20.159 20	44-000-00-00-00-00-00-00-00-00-00-00-00-	100525 100525 100525 100525	2000	5-108142 5-108542 5-15390 6-15390	9.16046 10.04606 11.02615 13.26099	1.95677 1.966379 1.96639 1.96639		211-21588 232-79078 256-58098 282-81472 311-74379	417-86035 460-54351 507-60934 559-50936 616-74170	1.97836 1.97836 1.97836
50000	2.2479 2.28459 2.28459 2.28459 2.28459	4-23509		44444 0-044	7.40228 8.12310 8.91707 9.79160	14.58471 16.01669 17.59281 19.32776 21.23775	1.97030	0-77-	343.64598 378.82779 417.62741 460.41794 507.61109	679-85596 749-45850 826-21336 910-87370	1.97836 1.97836 1.97836 1.97836
2222	2.394050 2.394050 2.394050 2.394050	44.494951 44.494	1.07681	2000 B	11-81582 12-98444 14-27164 15-68949 17-25130	23.34063 25.65607 28.20577 31.01364	1.97591	29-86	559.66109 617.06916 680.38836 750.22894 827.26427	1107-21292 1220-78706 1346-05555 1484-22569	1.97836 1.97836 1.97836 1.97836
2222	2.444 2.444	4.56496 4.66491 4.66491 4.77493	11111111111111111111111111111111111111	11111 0	18-97175 20-86700 22-95492 25-25517 27-78944	41.26158 45.36388 45.36811 49.94851	1.997726 1.997776 1.997776 1.997776 1.997776	© @@@@ ○⊶∾∾⊕	912.23739 1005.96825 1109.36164 1223.41598 1349.23309	1990-171751 2194-171133 2420-36220 2669-27429	1.97836 1.97836 1.97836 1.97836
02000	2.554185 2.5564985 2.566498 2.56649 2.56649 2.5664	444 899999 899999 899999 999999		11111 No-mo	30.58167 33.65824 37.04825 40.78379 44.90025	60.48916 66.57697 73.28475 80.67601 88.82076	1.97795 1.97809 1.97814 1.97814		1488-02882 1641-14495 1810-06220 1996-41466 2202-00570	2943.86283 3246.78232 3580.96219 3949.63526 4356.36923	1.97836
20000	2.65025 2.65025 2.65025 2.747027 741007	50.00 50.00	1.90207 1.90493 1.90493	นางเกมน อากพจ	49.43666 54.43607 59.94596 66.01869 72.71202	97.79625 107.68763 118.58886 130.60352 143.84591	1.97824 1.97824 1.97828 1.97828 1.97830	o-ivm+	2428-82550 2679-07046 2955-16461 3259-78315 3595-87862	\$300-1714 \$366-39194 \$449-03839 7113-95767	1.97836 1.97836 1.97836 1.97836
25000	2.76427 2.31152 2.83550 2.83550	5.27 5.37 5.37 5.47 5.47 5.47 5.47 5.47 5.47 5.47 5.4	11.00000	, 4-ac	80.08966 88.22187 97.18616 107.06803 117.96178	158-44205 174-53096 192-26599 211-81628 233-36642	1.97832 1.97833 1.97833 1.97833		3966-70960 4375-87251 4827-33666 5325-48299 5875-14679	7847.59643 8657.06970 9550.23026 10535.74517 11623.18037	1.97836 1.97836 1.97836 1.97836
50000	2.99899 2.99899 2.99899 2.99899 2.99899 2.99899	200000 200000 200000 200000 200000 200000	00000 00000 00000 00000	6.0	129.97145	257.12820	1.97834	10.0	5481.66483	12823.09399	1.97836
20.	3.01025	5.78325	1.92118								

TABLE 3B. Lanchester-Clifford-Schläfli Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and

 $T_{\alpha}(x)$ for $\alpha = 2/3$ and x from 1.50 to 10.0.

T1/4(K)	0.25916 0.25916 0.26071 0.26224	0.26665 0.26665 0.266607 0.26946 0.26946	0.27217	00.2748500.000.0000.00000.00000.00000.00000.0000	00000	00000 00000 00000	0.2994 0.2994 0.29991 0.29691 0.29691 0.29691	000000000000000000000000000000000000000	00000	00000	10606.0
H _{3/4} (x)	0000 4886 6886 6886 6886 6886 6886 6886	00000	00000	000000000000000000000000000000000000000	0.75577 0.75770 0.77975 0.79193	00000	0.99413 0.99413 0.99410 0.99410 0.99410 0.99410 0.99410 0.99410	0.9485 0.9485 0.97663 1.009090	1.019 1.059460 1.0649460 1.064932	1.09507	1.17433
F1/4(X)	2.15290 2.15290 2.15290 2.20337	222 228 228 230 3.08 6.6 230 3.08 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.	2.36303 2.41924 2.44785 2.44785	22.55 22.55 22.55 22.55 25 25 25 25 25 25 25 25 25 25 25 25 2	22.22.2 22.22.2 24.22.2 24.20.	22.02.0 20.02.	2.99408 3.06626 3.10501 3.10301	3-17-89 3-25-59 3-29-56 3-39-51	3.41340 3.45456 3.45456 3.53795	3.50 3.50 3.70 3.70 3.70 3.70 3.70 3.70 3.70 3.7	3. 60031
(x)	90000	50000			2222	******	0-264		4444 64444 64444	 44444 84444	1.50
T1/4(x)	0000113	00000	00000	000000000000000000000000000000000000000	00000 00000 000000 000000 000000	200000	00000 00000 00000 00000 00000 00000 0000	00000 00000 00000 00000 00000 00000 0000	40000 40000 40000 40000	00000	0.25757
H3/4(K)	00000	0.20071	00000	0.2462 0.2462 0.2462 0.24562 0.24562 0.24562 0.24562	00000 00000 000000 000000 00000 00000 0000	00000		0.410882	0.45081 0.45949 0.45825 0.47712 0.46607	0000 0000	0.54188
F1/4(X)	1.25631 1.24693 1.24693 1.26667 1.30020	1.32355	1.38611 1.39911 1.41289	1.454063 1.45498 1.45498 1.45415 1.49417	2.000 2.000 2.000 2.000 2.000 2.000 2.000	1.59481 1.628868 1.64688 1.64688 1.66396	1.08194 1.70021 1.71875 1.73759	1.77612 1.79582 1.81582 1.83612	1.8761 1.89881 1.92214 1.94214	2.0096.9 2.0096.9 2.0325.7 2.05598	2.10378
•	29999 24000	00000	99990 94999 94994	00000	25757	20000	00000	00000	99999	00000	1.00
F1/4(X)	00000	00000	00000	00000	99999 99999 509999 509999	00000	00000	00000	00000	00000	0.13746
H3/4(K)	00000	00000					00000			00000	
F1/4(X)	00000	000000	00000	20000	**************************************	88008	965000 904000 904000	1.12401	11111111111111111111111111111111111111	3-366 8-566 8-666 8-666 8-666 8-666 8-666 8-666 8-666 8-666 8-666 8-666 8-666	1.25631
•	00000	99999	9=224	20608	25222 4444	れるこれ	20000	2000	34441	24233	0.50

TABLE 4A. Lanchester-Clifford-Schläfli Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and

 $T_{\alpha}(x)$ for $\alpha = 1/4$ and x from 0.00 to 1.50.

0 - 1/4	T _{1/4} (x)	00000	00000	00000	00000	00000	0.033799	0.33799 0.33799 0.33799 0.33799	000000000000000000000000000000000000000	0.33799	
	H _{3/4} (x)	24-08-1-1-0 24-08-1-0 24-08-1-0	300.72132 333.76563 370.41439 411.05867	504.11478 561.53928 622.99529 691.13633 766.68645	850.44792 943.30954 1046.25608 1160.37849 1286.88542	1427.11584 1582.55306 1754.84026 1945.79769 2157.44170	2392.00581 2651.96407 2940.05690 3259.31970 3613.11455	4005.16529 4439.59636 4920.97585 5454.36306 6045.36129	6700-17618 7425-68038 8229-48506 9120-01918 10106-61719	11199-61111	
	F _{1/4} (x)	527.67626 585.89365 650.47799 722.12168	989-73967 987-50692 1095-93831 1216-19128 1349-54844	1497.43105 1661.41.396 1843.24219 2044.84923 2268.37739	2516-20022 2790-94750 3095-53275 3433-18381 3607-47665	4222-31283 4682-26100 5192-00279 5756-98374 6383-16955	7077-16850 7846-30050 8698-67355 9643-26842 10690-03241	11849.98315 13135.32354 14559.56902 16137.68846 17886.26020	19823-64472 21970-17593 24348-37283 26983-17397 29902-19693	331 36. 02562	
	• :	94444 0	*****			0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-	200000 20000	0-000 0-000	000000 00000	10.0	
	T _{1/4} (x)	00.322 00.3222 00.322 00.322 00.322 00.322 00.322 00.322 00.322 00.322 00.3222 00.322 00.322 00.322 00.322 00.322 00.322 00.322 00.322 00.3222 00.322 00.322 00.322 00.322 00.322 00.322 00.322 00.322 00.3222 00.322 00.322 00.322 00.322 00.322 00.322 00.322 00.322 00.3222 00.322 00.322 00.322 00.322 00.322 00.322 00.322 00.322 00.3222 00.322 00.322 00.322 00.322 00.322 00.322 00.322 00.322 00.3222 00.322 00.322 00.322 00.322 00.322 00.322 00.322 00.322 00.3222 00.322 00.322 00.322 00.322 00.322 00.322 00.322 00.322 00.3222 00.322 00.322 00.322 00.322 00.322 00.322 00.322 00.322 00.3222 00.322 00.322 00.322 00.322 00.322 00.322 00.322 00.322 00.3222 00.322 00.322 00.322 00.322 00.322 00.322 00.322 00.322 00.3222 00.3	00000 00000 00000 00000 00000	00-898 00-80 00-80	0.33751 0.33760 0.33773 0.33773	0.337882 0.337887 0.337889 0.33789	0.33779 0.337795 0.337795 0.337795	0.33797 0.33797 0.33797 0.33798	0.33798 0.333798 0.333798 0.337998	0.33799	
	H _{3/4} (x)	2.2467 2.2467 2.25687 3.22967 3.62943	5.12007 5.13007 6.1348	8.02318 8.02318 8.96313 10.00828 11.17032	12.46219 13.89826 15.49447 17.26852 19.24004	21.43078 26.56690 29.57936 32.91036	406.461 456.90 456.90 456.90 66.90 66.90 66.90 66.90 66.90	62.27311 69.21950 76.93050 85.48964 94.98954	105.53289 117.23353 130.21764 144.62511	178.34720	
	F _{1/4} (x)	7-70085 8-64388 9-69609 10-86951	12.17756 13.63512 15.25675 17.06686 19.07988	21.32051 23.81395 26.58819 29.67429 33.10675	36.92382 41.16800 45.88641 51.13136 56.96088	63.43934 78.63860 87.52252 97.39340	108-35735 1208-35735 134-05721 149-07356 165-74688	204-80949 227-62277 252-94553 281-05178	312.24535 346.86301 385.27813 427.90458 475.20112	527.67626	
	*	2	~~~~ *******	44444 0-044	wwww.	11111	11111 NO-80	מייייייי סייייייי	200000 20000	•••	
T1/4(H)	00000	20000	99999 15009	00000 00000 00000 00000	000000000000000000000000000000000000000	20000	0000 00000 00000 00000 00000 00000 00000	00000000000000000000000000000000000000	000000000000000000000000000000000000000	00000 00000 00000 00000 00000 00000 0000	0.32770
H3/4(H)		2000 2000 2000 2000 2000 2000 2000 200	\$1000 \$1000 \$1000 \$1000	2000	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	1002125 1002125 1002125	2000 2000 2000 2000 2000 2000 2000 200	10000	**************************************	20000 20000 20000 20000	2.24675
F1/4(H)	4 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	001110 001110 001010	400000 400000 4000000 4000000000000000	1000	4.93513 6.93513 6.93513	25.25.25 25.25.25 25.25.25 25.25.25 25.25.25 25 25 25 25 25 25 25 25 25 25 25 25 2	50000000000000000000000000000000000000	55.55 55.55	6-1100 6-24456 6-3466	99995 18887 18897 18897 18897 18897 18897 18897 18897 18897 18897 18897 18897 18897 18897 18897 18897 1897 18	6.85016
	82000	222	3433	1111		2222	95254	20000	95355	55555	2.00

TABLE 4B. Lanchester-Clifford-Schläfli Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and $T_{\alpha}(x)$ for $\alpha = 1/4$ and x from 1.50 to 10.0.

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T3/4(x)	25-55-55 55-55-55 55-55-55 55-55-55 55-55-	22.22.23.23.23.23.23.23.23.23.23.23.23.2	2. 60062 2. 60062 2. 61341 2. 61341	2.562	22.655400	25.669	2.70460	22.7268	2.74721222222222222222222222222222222222	2.76589 2.77591 2.77591 2.77633	2.78299
H _{1/4} (x)	######################################	3.507 3.609	3.73415 3.78613 3.8834 3.68374	4 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	4.09926 4.133998 4.168974 4.26897	4.273979 4.31173 4.34813 4.34813	44.44.44.44.44.44.44.44.44.44.44.44.44.	4.65013 4.68931 4.72880 4.70880	4.86925 4.89007 4.93125 4.9777	500000 500000 500000 50000 50000 50000 50000 50000	5.22942
F _{3/4} (x)	1.3578 1.3578 1.36759 1.36131 1.36932	1.39743 1.41395 1.42336 1.42236	444950 44520 44530 44530 44530 44530 44530 44530	1.50281 1.50281 1.51229 1.51229	1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55	1.592.79 1.60268 1.61331 1.61331	1.664 644 644 644 644 644 644 644 644 644	1. 69109 1. 71643 1. 72630 1. 73630	1.75041		1.87907
- 100 mg	00000	00000	23774	2222	24744	200 40 C	1444 04564	44444 44444 84464	3-12m4	*****	1.50
T3/4(X)	1.95393 1.95393 2.005081 2.005081	200000 200000 200000 200000 200000 200000	22.22.22 0.00.00 0.00.00 0.00.00 0.00.00 0.00.00	22.22.22.22.22.22.22.22.22.22.22.22.22.	25.55.55 25.55.55 25.55.55 25.55.55 25.55.55 25.55.55 25.55.55 25.55.55 25.55.55 25.55.55 25.55.55 25.55.55 25.55.55 25.55.55 25.55.55 25.	22.22 22.22 22.22 22.22 22.22 22.22 23.22	22-33-42-23-33-33-33-33-33-33-33-33-33-33-33-33	22.4393 22.412383 22.412383 43098	22.22.22.22.22.22.22.22.22.22.22.22.22.	22.468	2.52332
H _{1/4} (x)	00800	22.22 22.22 22.22 23.27 20.27	22.432 22.432 24.4020 452040 4	200000 200000 20000 20000 20000	45.000 × 000	22.22.22.22.22.22.22.22.22.22.22.22.22.	22.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	3.099990 3.08461 3.08461 3.08461	3.224505 3.224505 3.224505 3.224505 3.224505	######################################	3.42636
F3/4(x)	00000	004400 004400 004400	25.50	1000	10000	975599	1.22.22 2.22.22 2.22.22 2.22.22 2.22.22 3.22.22	1.259354 1.259354 1.25626 1.275736	1.2866 1.299640 1.30963	11111111111111111111111111111111111111	1.35768
*	99990 NWWW 0=044	ooooo waxaa waxaa	20000	6666	27224	22222	99099	00000	0-000	00000	1.00
T3/4(x)	00000 00000 00000 00000 00000 00000	00.1940	00000000000000000000000000000000000000	000 000 000 000 000 000 000 000 000 00	41000 41000 41000 41000 41000 41000	0my0-1	604980 604980 604980 604980	9-100 PM	113200	00000 14800 14800 14800	1.93707
R _{1/4} (x)	00000 00440 0000 0000 0000 0000	00000 20000 20000 20000 20000	00.000000000000000000000000000000000000	1.1003 1.17291 1.2417941	2.000 2.000	******	100000	000000 000000 000000 000000	******		2.10140
F3/4(x)	00000	000000 000000 000000000000000000000000	88888	2000 2000 2000 2000 2000 2000 2000 200	20000	00000	00000 00000 00000 00000 00000 00000 0000	55555	557.78	9-10-N 9-10-N 9-10-N 9-10-N	1.06463
	00000	20000 20000 20000	2=221		22224	25252 66066	2555	20000	32331	22222	C.50

TABLE 5A. Lanchester-Clifford-Schläfli Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and $T_{\alpha}(x)$ for $\alpha = 3/4$ and x from 0.00 to 1.50.

9 = 3/4	T3/4(x)	22222 22222 22222 22223	2.95867 2.95867 2.95867 2.95867 2.95867	2.95867 2.95867 2.95867 2.95867 2.95867	2.95867 2.95867 2.95867 2.95867 2.95867	2.95867 2.95867 2.95867 2.95867 2.95867	2.95867 2.95861 2.95868 2.95868 2.95868	2.95868	22.95	2.95868	
	H _{1/4} (x)	350.93126 386.93126 424.93216 467.93216 467.93216	514.71843 566.5351 623.60546 686.47762 755.73062	832.01997 916.06393 1008.65430 1110.66402 1223.05550	1346.88978 1483.33670 1633.68608 1799.36002 1981.92656	2183-11464 2404-83066 2649-17676 2918-47093 3215-26927	3542.39043 3902.94271 4300.35385 4738.40392 5221.26163	5753.52437 6340.26235 6987.06735 7700.10648 8486.18146	9352.79405 10308.21826 11361.57997 12522.94477 13603.41494	15215.23636	
	F _{3/4} (x)	107-80972	173.96977 191.48319 232.02236 255.42908	281.21402 309.61993 340.91444 375.39259 413.37966	455.23428 501.35184 552.16828 608.16425 669.86974	737-86911 812-80670 855-39301 986-41151	1197.28949 1319.15223 1453.47287 1601.52902 1764.72967	1944-62868 2142-93973 2361-55278 2602-55224 2868-23703		5142.58436	
	*	99999 99999	****	0-124	20000	0-10m4	*****	0-14	44444 44444	10.0	
	T _{3/4} (x)	20000 20000	22-99-22-25-25-25-25-25-25-25-25-25-25-25-25-	2.95900 2.95315 2.95315 2.953215 2.95428	2.95502 2.95512 2.95625 2.9569 2.9569	2.95734 2.95758 2.95778 2.95794 2.95994	2.95818 2.95818 2.95814 2.95840	2.0588 2.0588 2.0588 2.0588 2.0588 2.058 2	2.95862 2.95862 2.95863 2.95864 4.95864	2.95865	
	H _{1/4} (x)	7.98850 8.79854 9.49380 110.35732	13.4645 14.74009 16.11690 17.62923	23-12194 25-32635 27-74918	30.34 34.33 36.55 40.09 43.98 43.98 43.98 43.98 43.98 43.98 43.98 43.98 43.98 43.98 43.98 43.98 43.98 43.98 43.88 43 43 45 45 46 46 46 46 46 46 46 46 46 46 46 46 46	54. 56. 56. 56. 56. 56. 56. 56. 56. 56. 56	76.99614 84.57615 92.91611 102.09286 112.19102	123.30382 148.59473 148.99473 163.81073	198-07221 217-63597 239-55957 263-55064 289-92750	318.97126	
	F _{3/4} (x)	2.9990 3.29980 3.55984 3.55639	5.01157 5.01157 5.01157 5.4189	7.15623 7.685623 9.575553 9.87555	10.29158 11.27981 12.36654 13.56162	16.32142 17.91130 19.66009 21.58379 23.70002	26.02821 28.58973 31.40816 34.50945	441. 50.360493 550.36069 6013 6013	95.94778 73.62756 80.98160 89.07837 97.99335	107.80972	
SEST -COURT	•	0-1444	~~~~~ ~~~~~	0-24	2000 00 00 00 00 00 00 00 00 00 00 00 00	97773	73773	200000 0-0004	พูพูพูพูพ พ จะอ ง	•	
F3/4 (x)	2000 2000 2000 2000 2000 2000 2000 200	2000 2000 2000 2000 2000 2000 2000 200	25 1 25 1 25 1 25 1 25 1 25 1 25 1 25 1	25.00 25.00	25.25.25.25.25.25.25.25.25.25.25.25.25.2	22-5-6-6-6-6-6-6-6-6-6-6-6-6-6-6-6-6-6-6	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	22.22 28.88 28.88 28.72	22.000 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	20022 20022	2.89054
H1/4(x)	20000000000000000000000000000000000000	44694 46694 46694	5-1-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-	5.9924 5.9924 6.093364 6.093364 6.093364	96464 96464	8666 8666 8666 8666 8666 8666 8666 866	26.73 26.73	7.02732	7	1-1-0-1 1-0-1 1-0-	7.98850
F3/4(x)	700000 700000 700000	34555	2000 2000 2000 2000 2000 2000 2000 200	22.660.2	2.19047	2.2689 2.2689 2.2689 2.2699 2.	2.35885 2.37438 2.37428	2. 45036 2. 46983 2. 46983 2. 50993 3. 50993	2.54969 2.54969 2.549681 2.641681	25.65 25 25 25 25 25 25 25 25 25 25 25 25 25	2.76367
	3-2000	*****	11111	7477	277	-	25774	2000	9-NM4	20000	2.00

TABLE 5B. Lanchester-Clifford-Schläfli Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and

 $T_{\alpha}(x)$ for $\alpha = 3/4$ and x from 1.50 to 10.0.

T _{1/5} (x)	0.20025	00000	0.20850 0.20944 0.21126 0.21126	00000	0.21709	0000	000000000000000000000000000000000000000	0.22704 0.22760 0.22815 0.22868	0.23022 0.23022 0.23021 0.23119 0.23119	0.23258 0.23258 0.233558 0.23345	0.23429
H4/5(x)	00.447009		0000 0000 0000 0000 0000 0000 0000 0000 0000		0.0000000000000000000000000000000000000	00.72639	0.78624 0.861113 0.82377 0.82377	0.86256 0.867577 0.987577 0.987577	0.9368000000000000000000000000000000000000	0.986 1.0066 1.001620 1.0031620	1.06142
F _{1/5} (x)	2.38524 2.41596 2.47811 2.47869 2.51070	2.57504 2.60937 2.64937 2.64915	2.71209 2.74724 2.78286 2.81895 2.85552	2.89257 2.96812 3.00663 3.04564	3-08515 3-16517 3-16517 5-26676	3.2904 3.41904 4.19904 6.1991 8.41991	8.00000 8.00000 8.000000 8.000000000000	3.74156 3.78981 3.83865 3.93814	3.98860 4.04008 4.14451 4.1451	4-2514 4-3614 4-16105 4-41683 7-323	4.53040
.	00000	00000	2-2			20000 20000 20000 20000		4.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4.	0-0-0-4 4444 0-0-0-4	4444	1.50
T _{1/5} (x)	00000	0.12319	00.1300	0000	0000	00000	00.17314	0001777	000000000000000000000000000000000000000	00000	0.1979
H _{4/5} (x)	000000000000000000000000000000000000000	0.16518	0.19135	0.221935 0.23108 0.23108 0.23108	0.25545 0.25545 0.268174 0.268174	0000	0000 0000 0000 0000 0000 0000 0000 0000 0000	000000000000000000000000000000000000000	0.3890 0.49691 0.41299 0.42139	00000	0.47223
F _{1/5} (x)	1.35402 1.35402 1.36151 1.37559	1.42046	1.46711 1.48341 1.50002 1.51695	1.559.74 1.56962 1.56781 1.60633	1.66435 1.66385 1.703869 1.72436	1.74521 1.76640 1.78794 1.83205	1.90746 1.90746 1.9089 1.9089	1.97298 1.99775 2.02289 2.04841 2.07431	2.12726 2.12726 2.15432 2.20962	2.23487 2.29652 2.392508 2.392508	2.30524
*	00000 0-0000	00000	00000 99999	00000 99999 99999	00000	55755	00000	00000	00000	00000 00000 00000	1.00
T _{1/5} (x)	00000	00000	00000	00.00.0	00.00	00000	00000 00000 00000 00000 00000 00000	00000	00000 00000 00000 00000 00000 00000	60000	0.10661
H _{4/5} (x)	00000 00000 00000 00000 00000 00000	00000	00000	00000	00000	00000	00000	00000	000000000000000000000000000000000000000	00000	0.14080
F _{1/5} (x)	000000	1.000450 1.000450 1.000450 1.000450	001551	00000000000000000000000000000000000000	000000	00000 00000 00000	11.12.13.15.11.15.15.15.15.15.15.15.15.15.15.15.	11114209 111111111111111111111111111111111111	1.20335 1.22458 1.22458 1.23454	1.25.0351 1.25.0351 1.25.0351 1.25.0351	1.32072
	00000	50000	99999	50000	20000	20000	99990	00000 mmmmm neres	9-3-3-1	21222	6.50

TABLE 6A. Lanchester-Clifford-Schläfli Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and

 $T_{\alpha}(x)$ for $\alpha = 1/5$ and x from 0.00 to 1.50.

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0 • 1/5	T _{1/5} (x)	00000 52558 60000 52588 60000	00000	00000 00000 00000 00000 00000	000000 25550 000000 25550 000000	000000	0.25360 0.25360 0.25360 0.25360 0.25360	0.253460	00.288860	0.25360	
	H4/5(x)	177.74325 197.54327 219.52377 243.92671 271.01608	301.08572 334.45147 371.50461 412.61574 458.23901	508-86685 565-04552 627-37937 696-54029 773-27182	858-39852 952-83443 1057-59271 1173-79641 1302-69030	1445-65407 1604-21688 1780-07351 1975-10229 2191-38488	2431-22821 2697-18887 2992-09998 3319-10107 3481-67111	4083.66516 4529.35490 5023.47352 5571.28556 6178.54192	6851 - 74096 7557 - 99607 8425 - 21055 9342 - 14050 10358 - 46672	11484.99634	
	F _{1/5} (x)	700.99071 778.96261 865.66062 961.86701	1318-86678 1318-86678 1464-93670 1627-04773 1806-95125	2228-11398 2473-91267 2473-91267 2746-63101 3049-20213	3384-87750 3757-26135 4170-34888 4628-56851 5136-82869	5700.56986 6325-82188 7019-26772 7788-31405 8641-16934	9586-93047 10635-67862 11798-58552 13088-03108 14517-73379	16 102 89 504 17860 35 910 19808 79019 21968 86871 24363 50854	27018.09769 29960.76485 33222.67468 36838.35470 40846.05746	45288.16157	
		99999 99999		55555 0-0-4	20.00	888888 64044	2000 2000 2000	0-000 0-000	00000 00000	10.0	
	T _{1/5} (x)	0.254915 0.255917 0.255917 0.255917	00.02520 255	00.2552 00.25590 00.2	00.00 2.00 2.00 2.00 2.00 2.00 2.00 2.0	00.00 2.2559 2.25599 2.25599 2.25599 3.255	00.2259 8887 8889 00.2259 8889 00.2259 8889 00.2259	999998 999999 999999 999999 999999 99999 99999	00000 000000 000000 000000 00000	0.25360	
	H4/5(x)	2.358992 2.678992 3.61602 3.61602 3.61602	4.984.05 6.44909 1.44909 1.951	6-84885 7-67272 8-59022 9-61186 10-74932	12-01556 13-42498 14-99356 16-73907	20.84185 25.91854 28.89149 32.19738	35.087310 54.50223 55.55148 55.55148	61.39965 60.32952 76.02927 84.58370 94.08684	104-64303 116-36603 124-39020 143-85195 159-91124	117.74325	
	F _{1/5} (x)	8-42486 9-50623 10-71544 12-06679	15.26139 17.14209 19.24023 21.58022 24.18919	27.09729 30.33805 33.94870 37.97065 42.44987	47.43742 52.99005 59.17075 66.04948 73.70395	82.22040 91.69462 102.23292 113.95332	151.57886 175.50179 195.41055 2.7.53767	242.12789 269.45219 299.81367 333.54482 371.01708	4512 4510 510 510 52 54 50 50 50 50 50 50 50 50 50 50 50 50 50	700. 89071	
	# 15 15 15 15 15 15 15 15 15 15 15 15 15	0-754	~~~~	999999 9-7994	WWWW	11111 0-1/41	11111	o-www	พละสอ พละสอ	3	
T _{1/5} (x)	0000 0000 0000 0000 0000 0000 0000	0 00000 8 00000 8 00000 8 00000	20000	25,000	20000	20000 20000 20000 20000 20000 20000	25.0000	22.000	10000 10000	40404 40404 40404 40404 40404 40404 40404	0.24688
H _{4/5} (x)	1.097402	1.12642	1.22.1 2.22.2 2.22.2 2.22.2 2.22.2 2.22.2 2.22.2	1.324	1.46299	20000	900000	1.78971	2000		2.01992
F _{1/5} (x)	000000	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	5.22 5.22 5.22 5.22 5.22 5.22 5.22 5.23 5.23	5.547322	5-82-602	6-19979	00000 00000 00000 00000 00000	7.01482	7.55 7.55 7.55 7.55 7.55 7.55 7.55 7.55		9.424.8
	8232		33333	3333	2222	502.00	2=25	0444	2000	2222	5.00

TABLE 6B. Lanchester-Clifford-Schläfli Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and x from 1.50 to 10.0. $T_{\alpha}(x)$ for $\alpha = 1/5$ and

T _{2/5} (x)	00000	0.51956 0.52938 0.52468 0.52756	00000	20000 22722 22722 22723	00000	20000	000000	00000	0.59150	00.000000000000000000000000000000000000	0.60561
H _{3/5} (x)	000000000000000000000000000000000000000	0.92216 0.93553 0.94901 0.96261	0.97634	1.004683	1.12057	1.21360 1.22961 1.22961 1.26577	1.27854 1.31192 1.32884 1.34592		1.44 1.44 1.54 1.56 1.56 1.56 1.56 1.56 1.56 1.56 1.56	1.5644 1.5644 1.5633 1.	1.64228
F _{2/5} (x)	1.68278 1.69778 1.72828 1.74378	1.75954 1.79168 1.80806 1.82466	1.85146 1.85846 1.89318 1.91086	1.92876 1.94688 1.96523 1.98381 2.00262	2.050 2.050 2.060 2.060 2.060 2.060 2.060 2.060	2.12041 2.140041 2.16161 2.18258 2.20380	2 . 22 52 8 2 . 26 900 2 . 29 125 2 . 31 3 7 7	2.38 2.38 2.38 2.40 2.40 3.40 3.60 3.60 3.60 3.60 3.60 3.60 3.60 3.6	2.45 2.45 2.50 3.50 3.50 3.50 3.50 3.50 3.50 5.50 5	200000 2000000	2.71176
* 3	90000	00000	2-2-2-2	2020	02000	58585	0-14-	24-44 24-44 24-44	27777	*****	1.50
T _{2/5} (x)	00000000000000000000000000000000000000	00.932.60	0000 0000 0000 0000 0000 0000 0000 0000 0000	0.36241 0.37214 0.37693 0.37693	00000000000000000000000000000000000000	00000 4444 6444 6446 7446 7466 7466	00000	00000 4444 84444 000000 000000	4444 4444 4444	00000	0.50170
H _{3/5} (x)	00.000 00.0000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.0000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.0000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.0000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.0000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.0000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.0000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.0000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.0000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.0000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.0000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.0000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.0000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.0000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.0000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.0000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.0000 00.000	00.374000	00000 00000 00000 00000 00000 00000 0000	000000000000000000000000000000000000000			00000 00000 00000 00000 00000 00000 0000	00000	00000 1777 1785 1785 1786 1786 1786 1786 1786 1786 1786 1786	00000	0.84439
F _{2/5} (x)	1.15977	250025	23.5 23.5 25.6 25.6 25.6 25.6 25.6 25.6 25.6 25	1.2841	1.359249 1.359249 1.35927 1.35927	11.00000 10.00000 10.00000 10.00000	32123	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	40000	-35568 -35568	1.66270
2	00000	99990 NNNNN NAC#0	00000 00000	00000	0-000	20000	0-200	55000	0=000	99099	1.00
T2/5(x)	0000 0000 0000 0000	00000	\$5555 55555 55555	00000	00000 00000 00000 00000	00.00	00000 40000 40000 70000	-00000 -00000 -00000 -00000 -00000 -00000	00000 00000 00000 00000 00000 00000	00000 00000 00000 00000 00000 00000 0000	0.28304
H _{3/5} (x)	00000	00000	00000 00000 00000 00000 00000	00000	000000000000000000000000000000000000000	00000	00000	00000 25.25.00 25.75.	00000 20000 20000 20000 20000 20000	00000 00000 00000 00000 00000	0.32826
F2/5(x)	000000	88888	\$2000 \$2000 \$2000	00000	61-975 61	35656	00000	00000	1500-		1.19977
	99999	50000	9-775		25000	34444	20000	20000	32333	11111	6.30

TABLE 7A. Lanchester-Clifford-Schläfli Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and $T_{\alpha}(x)$ for $\alpha = 2/5$ and x from 0.00 to 1.50.

a = 2/5	T _{2/5} (x)	00000	00000	00000	00000	0000 0000 0000 0000 0000 0000 0000 0000 0000	00000 00000 00000 00000 00000 00000	00000 00000 00000 00000	00000 641146 661	0.67136	
	H _{3/5} (x)	229.5497 229.54871 229.54871 284.14063 284.14063	3411.48 341.715294 422.54725 467.7359	517.74129 573.0808 634.31861 702.08474 777.07309	860.05207 951.87175 1053-47253 1165-89472	1580-22198 1748-72653 1748-72653 1935-16571 2141-44573	2369-67524 2622-18672 2901-56028 3210-64990 3552-61247	3930-93995 4349-49486 4812-54961 5324-82992 5891-56294	6518 - 53038 7212 - 12729 7979 - 42709 8828 - 25351 5767 - 26006	10806.01804	
	F _{2/5} (x)	278-92057 308-82162 341-91671 378-54625 419-08687	463.95527 513.61248 568.56856 629.38782 696.69459	771.17956 853.60686 944.82186 1045.75977	1281.05275 1417.81857 1569.15340 1736.60676 1921.89281	2126.90775 2353.74921 2604.73758 2682.43966 3189.69479	3529-64379 3905-76091 4321-88925 4782-27981 5291-63481	5855.15553 6478.59521 7168.31763 7931.36179 8775.51354	9709.38476 10742.50093 11885.39794 13149.72926 14548.38436	16095.61973	
	*	99999	*****	 0	20000			0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-	,00000 00000	0.01	
	T _{2/5} (x)	000000	000000000000000000000000000000000000000	000000000000000000000000000000000000000	0.67016 0.67016 0.67076 0.67076	00.671000	0.67123 0.67126 0.67128 0.67128	0.67132	0.671135 0.671135 0.671135 0.67135 0.67135	0.67136	
	H _{3/5} (x)	2.92825 3.64905 4.06905 4.53271	5.04 5.61 5.61 5.61 7.93 7.93 7.93 7.93 7.93 7.93 7.93 7.93	8.56274 9.50795 10.55473 11.71404 12.99799	14.41998 15.99486 17.73903 19.67067 21.80988	26-80246 29-70741 29-70746 32-92486 36-92486	40.49196 44.69196 54.99052 60.91899	67.48265 74.74935 82.79418 91.70023	1124-54735 124-55733 137-92875 152-73222 169-11805	187.25497	
	F _{2/5} (x)	5.02 5.02 5.57 6.18 6.18 6.18 6.18 6.18 6.18 6.18 6.18	7.61753 8.45406 9.38197 10.41103	12.81695 14.21903 15.77295 17.49496 19.40306	21. 51.718 23. 85938 26.45408 29. 32832 32. 51.202	39-943831 44-24383 44-05934 54-05939	60.23811 66.74260 73.94486 81.91947 90.74895	100.52464 111.34.759 123.32965 136.59457 151.27930	167-53537 185-53044 205-45005 227-49948 251-90588	278.92057	
	* 1	0-144	50-50	0-Nm+	20000000000000000000000000000000000000	3333	11111	NANA Omnus	พละอด	•	
T2/5(x)		0000 0000 0000 0000 0000 0000 0000	00000 00000 000000 000000	00000000000000000000000000000000000000	0.0000000000000000000000000000000000000	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.000 000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.	00000	62000 62000		0.64692
H _{3/5} (x)	4460 4460 4460 4460	0 4900 0 4000 0 4000 0 4000 0 4000 0 4000 0 4000 0 0 4000 0 0 4000 0 0 0 0	1.05102	2.01102	2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00	2.2064 2.23233 2.25617 2.25617 2.26617	2.33716 2.36402 2.36402 2.39114 2.41653	2.55023 2.55023 2.55023 2.5508	2.64170	22.22.22.22.22.22.22.22.22.22.22.22.22.	57826-2
F _{2/5} (x)	2.7.7.	2. 68070 2. 90999 2. 909999 2. 909999	3.030 3.000 3.000 3.000 3.000 3.000 3.000 3.000 3.000 3.000 3.000 3.000	2.51.56.30 3.51.56.30 3.51.56.30 3.51.36.30 3.51.36.30	3.32 3.35 3.35 3.35 3.35 3.35 3.45 3.45 3.45	1. 40 00 00 00 00 00 00 00 00 00 00 00 00	2.5807 2.77.8807 3.75.880 3.75.740	3.99534 3.99534 3.99534	10000 10000	18536 18536 18536	4.52441
	2222	20000	3233		2=22	1 1111	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	222	9-200	25555	20.2

TABLE 7B. Lanchester-Clifford-Schläfli Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and $T_{\alpha}(x)$ for $\alpha = 2/5$ and x from 1.50 to 10.0.

T3/5(x)	1.18172	2025	1.2260	1.25930	1.26998	1.28902 1.299204 1.29970 1.30914	1.30633	1.322611.3226611.3316111.33451		1.35089 1.355945 1.35845 1.35845	1.36327	
H _{2/5} (x)	1.70597	1.00431 1.02439 1.064663 1.066500	1.92704	2.03356 2.053356 2.05335 2.07731	2-1423	22.2592 22.2592 22.2592 23.2592 25.2592 25.259	22.22 22.22 24.22 24.22 24.22 24.23 25.23 26.23	2.52991	22.22.2	22.142.2	5.88285	
F3/5(X)	1.45002	1.550037 1.551077 1.53199 1.54278	1.5564791 1.5564791 598734	1.65.2221 1.65.221 1.65.41 1.65.61 1.65.61 1.65.83	1.67069 1.68318 1.70859 1.72152	1.75.24	1.00233 1.00233 1.00233 1.00233 1.00233	1.91901 1.91901 1.91901 1.91934	1.96553 1.96553 1.99741 2.01361	2.00000 2.000000 2.000000 2.000000 2.000000	2.11465	
	00000	00000	22224	59285	07000	14111 20000 30000	0-266	119785	77777	77777	1.50	
T _{3/5} (x)	0.77922 0.78994 0.81130 0.82134	0,83156 0.851656 0.85165 0.86148	0.000000000000000000000000000000000000	0.92709 0.93599 0.95346 0.95346	00.997	0.000 000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.	1.004903 1.0049480 1.0070548	1.09440 1.09118 1.09786 1.10445	1.12984 1.12984 1.13596 1.14199	1.14792 1.15937 1.16521 1.17080	1.17630	
H _{2/5} (x)	000000000000000000000000000000000000000	00000 00000 00000 00000 00000 00000 0000	1.03240 1.04240 1.04315 1.06396	1.12778	1.26364	1.225234 1.225234 1.225234 1.225234 1.225234	1.34334	1.46.508	1.5537092 1.553530 1.553530 1.553530 1.553530	1.61092 1.667968 1.66757 1.666757	1.70597	
F _{3/5} (x)	29090	1.12905	1.15927 1.17057 1.17057	1.19970	125251	1.2544 1.255173 1.255173 1.27579	1.28002 1.39326 1.30282 1.30282 1.30282	11.32 14.45	1.35942 1.3967942 1.39663 1.39663 1.39663 1.39663 1.39683 1.39	11.44	1.45028	
	popon numun o-uma	20000 20000 20000 20000	00000	00000	00000	20000	00000	00000	00000	50000	1.00	
73/5(H)	> 4 4 6 O > 4 0 0 > 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0	000000000000000000000000000000000000000	00000	00000	00000	00000	N/M446 9-14-49-9-0 9-0-0-0 9-0-0-0 9-0-0-0 9-0-0-0	00.66.000	000000	000000000000000000000000000000000000000	0.17922	
H2/5(H)	00000	00000	00000 00000 00000	00.000000000000000000000000000000000000	00000	44444 44444 44444 44444 44444	00000 6/1/200 6/1/200 6/1/200 6/1/200	00000	00000 04040 04040 04040	00000	0.86199	
F3/5(H)	000000	000000	- 00000 - 00000 - 00000 - 00000	00000 00000 00000 00000 00000	1.01672	7.480000 1.480000 1.480000 1.480000 1.480000 1.480000 1.480000 1.480000 1.480000 1.480000 1.480000 1.480000 1.480000 1.480000 1.480000 1.4800 1.48000	20000 20000 20000 20000 20000	20000 20000	00000	1.085.22 1.085.22 1.095.22 1.095.22	1.10622	
•	00000	00000	9=224	00000	20000	20000	00000	00000 00000	9494	20000	25.0	

Lanchester-Clifford-Schläfli Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and $\alpha = 3/5$ and x from 0.00 to 1.50. Ta(x) for TABLE 8A.

3/2	
2	
8	

a = 3/5	T3/5(x)	44464	44444	444444 644444 6444444 6444444444444444	44444 666999 6669999 6669999	1.48950 1.48950 1.48950 1.48950	4444 4444 4444 4444 4444 4444 4444 4444 4444	1.48951	1.48951	1.48951	
	H _{2/5} (x)	258-05212 251-58249 277-54946 306-20625 337-83198	372.73492 411.25538 453.76907 500.69077 552.47842	609-63759 672-72646 742-36131 819-22253 904-06134	997.70714 1101.07568 1215.17807 1341.13066 1480.16606	1633-64526 1803-07095 1990-10239 2196-57164	2676-12602 2953-91126 3260-58013 3599-14166 3972-91466	4385.56643 4841.14584 5344.12390 5899.43758 6512.53463	7189-44720 7936-81115 8761-97155 9673-03503 13678-95366	11789.61318	
	F _{3/5} (x)	169-10773 166-39649 186-33813 205-57712 226-80937	250.24183 276.10298 304.64504 336.14649 370.91477	451.64484 498.39511 549.99691 606.95457	669.82494 739.22282 815.82701 900.38700 993.73032	1096.77069 1210.51696 1336.68310 1474.69908	1796.65455 1983.14952 2189.03632 2416.33389 2667.27158	2944.31108 3250-17066 3587.85195 3960-66950 4372.28341	4826.73538 5328.48855 5882.47146 6494.12659 7169.46404	7915.12075	
	• 5	0-000 0-000	00000 00000	0-144	20000	@@@@@ ○→ഗ₩4	 	0-144	****	10.0	
	T _{3/5} (x)	1.5555 1.555 1.5	1.47127	1.48877	1.48699 1.48762 1.48812 1.68812	111111111111111111111111111111111111111	1489926 1489922 148932 148932 148932	1.48940 1.48942 1.48942 1.489442	07-200 07-200 07-300 07	1.48949	
	H _{2/5} (x)	5.17096 5.29257 6.26617 6.89726	7.59185 8.35659 9.19878 10.12649	13.51485 13.514085 14.88417 16.39224 18.05476	19-88770 21-90868 24-13713 26-59449 29-30442	32.29303 39.22692 43.23652 47.65129	52.53584 57.9358 70.46357 77.62878	85.59991 94.39423 104.09703 114.80242	139.64742 154.02832 169.89679 206.72954	228.05212	
	F _{3/5} (x)	3.55912 3.96725 4.28489 4.06489	5.1600 5.22710 7.66000 7.66000 7.6	8.27860 9.10823 10.02339 11.63285 12.14631	13.37444	23.90346 26.34495 29.03589 32.00427	35.27878 38.89107 42.87609 47.27239 52.12255	57.47356 63.37728 65.89096 77.00779	93.75716 103.41170 114.06496 125.82052 136.79270	153.10773	
	•	0-444	~~~~	0-0-0-	MMMM.4	0-1111	,,,,, ,,,,,	0-044	~~~~~ ~~~~~	•	
T3/5(x)	1.36327 1.36327 1.37019	1.374.6 1.374.6 1.36096 1.36096	1.35 1.35 1.35 1.35 1.35 1.35 1.35 1.35	1.000 1.000	96000	111383	25000 25000	202184 202222 202222 202222 202222 202222 202222 202222 2022	1.44	44444 900000 900000	1.44099
H _{2/5} (x)	22.22	2005-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0	2.54 B B B B B B B B B B B B B B B B B B B	1000	200000 200000 200000 200000	40040 40040 60040 60040 60040	40000 40000 40000 40000 40000 40000	######################################	4.26423 4.34784 4.34784 4.34326	44.56284 45.56284 45.	4.69636
F3/5(x)	2.11.52.12.22.14.22.14.22.14.22.15.790.22.16.700.22.16.700.20.16.700.20.16.700.20.16.700.20.16.700.20.16.700.20.16.700.20.16.700.20.16.700.20.16.700.20.16.700.20.16.700.20.16.700.20.16.700.20.16.700.20.10.700.20.16.700.20.10.700.20.16.700.20.16.700.20.16.700.20.16.700.20.16.700.20.16.70	29 - 60 20 - 6	2.22 2.23 2.23 2.25 2.25 2.25 2.25 2.25	2.43899	22.22.22.22.22.22.22.22.22.22.22.22.22.	25.55 25.55	2.17.92.7 2.17.92.7 2.17.92.7 2.82.67.9	2.99259 2.99259 2.99259 2.95289 2.95289 3.95289	3.0000 3.0000 3.0000 3.0000 3.0000 3.0000 3.0000 3.0000 3.0000	3-11636 3-14633 3-17259 3-22998	3.25912
*	77777 22222	22222	*****	28333	2222		25254	2222	35555	28288	5.00

TABLE 8B. Lanchester-Clifford-Schläfli Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and $T_{\alpha}(x)$ for $\alpha = 3/5$ and x from 1.50 to 10.0.

T4/5(x)	3.444 3.444 3.444 3.448	5.550 5.550	3.55005 3.55005 3.55005 3.55005	3.596393 3.596393 3.59670 3.59670	2000 2000 2000 2000 2000 2000 2000 200	666499 666499 666499 666660 66600 666000 666000 666000 66600 66000	3.000 3.000 3.000 3.000 3.000 3.000 4.000	3.69915 3.69834 3.70281	777777	3.73502 3.73590 3.74972 3.74947	3.75077	
H _{1/5} (x)	4.000 4.000 4.73495 4.73495 4.73495	4.98666 4.988626 4.988610 4.988610 4.986610	55.00 10.00	55.52 55.52 55.52 55.53	5.55 5.55 5.55 5.55 5.55 5.55 5.55 5.5	24000 24000 24000 24000 24000 24000	60.000 60.000 60.000 60.000 60.000 60.000 60.000 60.000	6-11102	6.1912 6.1925 6.1925 6.1925 8.	90000 90000 90000 90000 90000	6.62973	
F4/5(x)	1.34 4.424 4	1.37179 1.38727 1.39507 1.002	1.42-19 1.42-19 1.43-1	1444 4446 4446 4446 4466 4466 4466 4466	11.55.00 10.	25.55.5 25.55.	600000 600000 600000 600000 600000 600000 600000 600000 6000000	1.055 0.055	1.72389	111111111111111111111111111111111111111	1.82062	
*	00000	00000	2-25	22-20	2-2-2-	20000	0-NW+	20000 00000 00000	97771	2222	1.50	
T _{4/5} (x)	22.22.22.22.22.22.22.22.22.22.22.22.22.	2-91302 2-91302 2-94-788 2-94-788	25.00.6 9	000000 000000 000000 000000 000000 00000	1000 1000 1000 1000 1000 1000 1000 100	2000 2000 2000 2000 2000 2000 2000 200	3-24-55 3-24-55 3-29-611 3-29-61	33.55 33.55 33.55 35 35 35 35 35 35 35 35 35 35 35 35 3	33.450.55 1.40.65 1.60	2000 2000 2000 2000 2000 2000 2000 200	3.46461	
H _{1/5} (x)	3.000 9.000	3.26 544 3.26 544 3.26 549 3.26 549	00000000000000000000000000000000000000	99.554 99.554 99.550 99.550 99.550 99.550	44000 0444 0444 0444 0444 0444	4 - 6 - 6 - 6 - 6 - 6 - 6 - 6 - 6 - 6 -	44.00 46.00 46.00 46.00 46.00 46.00 46.00 46.00 46.00 46.00 46.00 46.00	1010000	800000 100000 100000 100000 100000	4444 4444 4444 4444 4444 4444 4444	4.62477	
F4/5(x)	00000 00000 00000	1.000	1.12334	1.135	1.1594	1.1093087	1.22996	1.23 736 1.24 926 1.25 9326 1.25 9325	1.22477 1.2260403 1.2660403	1.3000	1.33186	
Audin't row	99999 24044	00000	99999 94949	99999	00000	00000	00000	00000	0-0-0	00000	1.00	
T _{4/5} (x)	0000 0000 0000 0000 0000 0000 0000 0000	12252	0.0500 0.	1.81503 1.81503 1.901967 94284	200032 20003 20003	200420 20040 200420 200	Servino Servin	200000 200000 200000 200000	2000 2000 2000 2000 2000 2000 2000 200		2.80081	
H1/5(x)	0000	400000 400000 4000000	85-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	00000 000000 000000 000000 000000	00000000000000000000000000000000000000	04000 04000 04000 04000 04000	20000 20000 20000 20000	2000-	200000 200000 200000 200000		3.02345	
F4/5(x)	000000	88888	2000	40000	20000	22555 22555 22555 22555	90000 900000 900000 900000 900	20000 20000	00000 00000 00000 00000 00000	00000 00000	1.07949	
	00000	56006	2=101	10000	20000	20000	20000	ne~==	32333	55000	0.50	

TABLE 9A. Lanchester-Clifford-Schläfli Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and $T_{\alpha}(x)$ for $\alpha = 4/5$ and x from 0.00 to 1.50.

0 = 4/5	T4/5(x)	99999 89999 89999 89999 89999 89999 89999 89999 89999 899 89 8	******	**************************************	99999999999999999999999999999999999999	3.996	3.943255 3.943255 3.943255 3.943255	35.555	44444	3.44325	
	H _{1/5} (x)	383.09540 421.1442 463.01142 509.08890 559.0068	677.05126 744.67626 919.11820 901.06828	991.28809 1090.61681 1199.97911 1320.39393 1452.98408	1558.98691 1759.76597 1936.82395 2131.81696 2346.57016	2583.09512 2843.60889 3130.55508 3446.62701 3794.79337	4178.32639 4600.83300 5066.28910 5579.07745 6144.02939	6766-47083 7452-27307 8207-90869 9040-51334 9957-95379	10968.90301 12082.92298 13310.55601 14663.42546	17797.45024	
	F _{4/5} (x)	97.15298 1.04.90157 11.7.41941 129.10452	156.11948 171.69934 188.84889 207.72720 228.50956	251.38912 276.57868 304.31274 334.86970 368.47431	405.50035 446.27361 491.17519 540.62505 595.08607	655.06836 721-13418 793-99321 874-05848 962-35283	1059.61611 1166.76302 1284.80185 1414.84405 1558.11484	1715.96487 1889.88308 2081.51091 2292.65795 2525.31920	-+000	4513.40140	
	• :	99999 0	*****	0-10m4	*****	90000 0-0-0-4	******	0-24	00000 00000	0.01	
	T _{4/5} (x)	900000 900000 900000 900000 900000 900000 900000	3.92406 3.92406 3.927406	3.93.261 3.93.601 3.93.736 3.93.736	3.94058 3.94058 3.94106	2000 2000 2000 2000 2000 2000 2000 200	002250 002250 002250 002250 002250 002250	3.949304 3.94911 3.94911 3.94911	3.994 3.994	3.94322	
	H _{1/5} (x)	11000 10000 1000 10000 10000 10000 10000 10000 10000 10000 10000 10000 1	18-96492 20-18227 22-03044	26-28502 26-28582 28-73051 31-41667	45.05922 49.05922 49.34733 54.05922	59.23621 64.92454 71.17530 78.04472 85.59465	53.89320 103.01536 113.04365 124.06897 136.19136	149.52099 164.17919 180.29953 198.02911 217.52993	238.98039 262.57698 288.53610 317.09608 348.51946	383.09540	
	F4/5(x)	2.004 2.004 3.00	3.975 4.3875 4.78406 5.13479 5.60529	6-11.783 6-68084 7-29929 7-97862	9.54459 10.44511 112.52134 13.71558	15.02781 16.05446 19.79607 21.71031	28-12747 28-12747 28-67033 31-46606 34-54004	37.92019 41.63729 45.72521 50.22124 55.16647	660-590614 73-17316 88-4-17316 88-4-17316	97.15298	
	*		*****	0-17-4	44444 44444	14111 0-1/m+	*****	0-1-1-1-1	******	;	
T _{4/5} (x)	3.75577 3.75577 3.75577 3.75797 3.75797		100 mm	300000 3000000 30000000000000000000000	0.000	20000 20000		*****	200000 200000 200000 200000 200000	**************************************	3.84854
H _{1/5} (x)	6-9-9-9-9-9-9-9-9-9-9-9-9-9-9-9-9-9-9-9	7	10000 10000 10000 10000 10000 10000	7.7.	000000	00000 00000 00000 00000	20000	90101	00000 00000 00000 00000	00000 00000 00000 00000	10.21030
F4/5(x)	2029 2029 2049 2049	22.23	2222	2000 2000 2000 2000 2000 2000 2000 200	20073	200000	2.29064 2.29064 2.29064 2.29064 2.29064 2.29064	2.36113	04 14 10 00 00 00 00 00 00 00 00 00 00 00 00	200000 200000 200000 200000 200000	2.4139
	8555		3333	3433	2222	555	2273	-	2=200	-	2.00

TABLE 9B. Lanchester-Clifford-Schläfli Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and $T_{\alpha}(x)$ for $\alpha=4/5$ and x from 1.50 to 10.0.

T2/7 (x)	0.30537 0.30728 0.30916 0.31282	0.31696	0.32566 0.32666 0.32626 0.32773	00000 00000 00000 00000 00000 00000	00.00 00	00000	0.35000	00000	0.36013	00000	0.36841
H _{5/7} (x)	0.65999 0.65999 0.659099 0.659099	0.65197 0.662197 0.681310 0.68514	00.110114	0.77716	00000 00000 00000 00000 00000 00000 0000	00.00 00.00 00.00 00.00 00.00 00.00 00.00 00.00	0.00 9.45 9.00 9.00 9.00 9.00 9.00 9.00 9.00 9.0	1.02929 1.04394 1.05878 1.07376	1.1194.7	11.19300	1.26597
F2/7 (x)	2.09 99 99 99 90 90 90 90 90 90 90 90 90 9	2.07233 2.09504 2.11805 2.14137 2.16499	2.25131 2.25131 2.26261 2.26261	2.3133 2.35918 2.39188 2.41873	25.55 25.55	258 258 254 254 554 554 554 554	2.73718 2.799831 2.83173 2.8401	2. 42915 2. 96325 2. 99109 3. 03136	3.17256 3.17256 3.17256 3.000	3.75 3.26 3.38 3.38 3.38 3.38 3.38 3.38 3.38 3.3	9.43629
13 14 18	00000	50000	2-2-1	20000	22222	50000			97771	11111	1.50
T2/7(x)	00000	000000000000000000000000000000000000000	00000 000000 000000 000000000000000000	00.000	000000 0000000000000000000000000000000	00000	00000 20000 20000 20000 20000 20000 20000 20000	00000 00000 00000 00000 00000	00000	00000	0.30537
H _{5/7} (x)	00000 00000 000000 000000 000000	0.23130	0.27774	00.31.95	00000 000000 0000000 0000000 0000000	00000	00000	000000000000000000000000000000000000000	00000 00000 00000 00000 00000	00000	0.59952
F _{2/7} (x)	1.23340	1.29 1.29 1.29 1.30 50 1.31 50 1.31	1.32%! 1.34%! 1.34%! 1.36%! 1.372%	1.42 951	1.46 954 1.46 954 1.40 954 1.50 954	12.00 12.00 12.00 12.00 12.00 12.00 13.00 10.00	1.6511567	1.67778 1.71239 1.73008 1.74003	1.76624 1.76671 1.86471 1.82246	1.90123	1.96323
	0-1440	90000 88888 8888	99999	00000 00000	00000	00000	30000	00000 90000 90000	90999	50000	1.00
T2/7(R)	00000	00000 00000 00000	80000 20000 20000 20000 20000 20000	45040 45040 60000 60000	00000 00000 00000	90000 90000 90000 90000	20000 20000 20000 20000 20000 20000	00000	0000 1139928 1139928 1139928 1139928	00000 110000 110000	0.16366
H _{S/7} (x)	00000	00000	00000 00000 00000	00000	00000 00000 00000	00000 10000 10000 10000	484N0 4840N 480N 48	00000	00000 111111 1111111111111111111111111	-90000	0.20034
F2/7(x)	00000	000000 000000 000000000000000000000000	00000	25000 25000	20000	24428	10000	1.12139	2424	2000	1.22412
	99999	50000	0-144	20000	0-000	*****	9=700	20000	3-777	00000	C. 50

TABLE 10A. Lanchester-Clifford-Schläfli Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and $T_{\alpha}(x)$ for $\alpha = 2/7$ and x from 0.00 to 1.50.

0 - 2/7	T2/7(x)	00000	00000	00000	00000	00000	000000	00000	00000	0.40519	
	H _{S/7} (x)	179.42086 199.08137 220.87995 245.04800 271.84186	394-54552 370-97450 411-63435 456-28673	505.98728 561.07865 622.13594 689.80279 764.79207	847.89333 939.98101 1042.02357 1155.09354 1280.37876	1419-19463 1572-99761 1743-40178 1932-19265 2141-34673	2373.06056 2629.75379 2914.11433 3229.11626 3576.05267	3964.56982 4392.70497 4866.92821 5392.18883 5973.96657	6618-32337 7331-99124 8122-99178 8997-76315	11040.85413	
	F _{2/7} (x)	442.81022 491.33142 545.12935 604.77509	744-2000 025-47413 915-55721 1015-41001	1248.76448 1384.72833 1535.41592 1702.41573	2092.57865 2319.8484 2571.68659 2850.74013 3159.94055	3502.53428 3882.1652 4302.66855 4768.59922 5284.79068	5856.64912 6490.16098 7191.95501 7969.37115 8830.53666	9784.45941 10841.07625 12011.44627 13307.77514 14743.58670	16333.85403 18095.15451 20005.84147 22206.23412 24598.82785	27248.52692	
	*	99999	*****	0-25.	20000	#####################################	*************************************	*****	~~~~~ ~~~~~	10.0	
	T _{2/7} (x)	0.39441 0.39641 0.396641 0.39963	# 1 # 1 # 1 # 1 # 1 # 1 # 1 # 1 # 1 # 1	00000	00000	00000 400000 4000000 9000000	00000 00000 00000 00000 00000 00000	00000	00000	0.40519	
	F,5/7 (x)	2.688135 2.688135 3.06814 3.39030 3.60310	5.34296 5.340019 5.940019 6.96909	7.44701 8.31065 9.27007 10.33582 11.51961	12.83443 14.29469 15.91635 17.71735 19.71663	21.93665 24.40130 27.13734 30.17442 33.54542	37.28678 41.43489 46.04653 51.15932 56.83226	63-12631 70-10994 77-85530 86-44808 95-97931	106-55088 118-2-7569 131-2-7884 145-69894 161-68955	179.42086	
	F _{2/7} (x)	6.0754 7.61372 9.51765 9.52765	0.05000	18.45736 20.56178 22.94317 25.56736 28.48380	31.72390 35.32336 39.32135 43.76214 48.69354	54-16945 60-24938 66-99933 74-49248 82-80993	92.04161 102.28718 113.65714 126.27394 140.27331	155.80568 173.03779 192.15439 213.36024 236.88226	262-97188 291-90773 323-99854 359-58639 399-05030	442.81022	
	•	0-144	20000 20000	mmmm 0~vm*		37771	75755	พูพพูพ อากพล	พูพูพูพูพ พ จะ ๑๐	o.	
F2/7(X)	90000	00000	0000	00000	20000000000000000000000000000000000000	00000 00000 00000 00000	00000	20000	00000	00000	0.39196
H _{S/7} (x)	1.1.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2			2852	1.000 to 100 to	1.75162	40.00	2000000 200000000000000000000000000000	22.113.85.0	200000 200000 200000 200000 200000 2000000	2.30135
F2/7(X)	0.000 0.000	3.63824	3.85 3.85 3.85 3.85 3.85 3.85 3.85 3.85	100 00 00 00 00 00 00 00 00 00 00 00 00	100 M	######################################	1116 1216 1216 1216 1216 1216 1216 1216	2010 2010 2010 2010 2010 2010 2010 2010	5.55.55 5.55.55 5.55.55 5.55.55 5.55.55 5.55.5	200000 200000 200000 200000 200000	6.07544
•	3222	2422	3333	1111			25751	2555	32555	55555	2.00

TABLE 10B. Lanchester-Clifford-Schläfli Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and $T_{\alpha}(x)$ for $\alpha = 2/7$ and x from 1.50 to 10.0.

T _{3/7} (x)	0.56526 0.56862 0.57193 0.577193	0.58415	0.59657	0.0000000000000000000000000000000000000	0.62316	00.63708	0.64762 0.64762 0.651962 0.65158	0.6557210	00000	00.001259	0.68007
H _{4/7} (x)	0.95886 0.95878 0.95178 0.955178	1.00899 1.00899 1.00899 1.008591	1.06412 1.07871 1.09343 1.10827	1.13836 1.15360 1.16897 1.20013	1.21591	1.29698 1.31963 1.34744 1.34759	1.38177	1.47048	1.58245 1.60172 1.62118 1.64081	1.68063 1.70062 1.72120	1.76254
F _{3/7} (x)	1.63616 1.65007 1.65416 1.67844	1.70756 1.72241 1.73745 1.75268	1.78374 1.81559 1.81559 1.83181	1.86488 1.86172 1.89878 1.91604 1.93352	1.95121 1.96912 1.98724 2.00559 2.02416	2.04295 2.06196 2.06195 2.10068 2.120968	2-14033 2-16051 2-20158 2-2258	2.26362 2.26362 2.308565 2.308565 2.30856	2.35308 2.35866 2.42184 2.45284	25.7.7.5. 1.02.00 1.00 1	2.59165
* 8	30000 30000	20000	01064	200.80		25555		200 00 00 00 00 00 00 00 00 00 00 00 00	9-7-1	4444 4444 81000	1.50
T _{3/7} (x)	00-33-92 00-33-33-33-33-33-33-33-33-33-33-33-33-3	00.35536 00.35536 00.357300 0.37300	00.3864 00.3864 00.39575 00.400130	00-441729 00-441729 00-441739 00-441	00000 44444 44444 64444 400000 4000000 400000000	0.446327 0.446805 0.47277 0.48203	00.44986057 00.449887 00.449887 00.5099883	00000000000000000000000000000000000000	00.5328 00.5328 00.54084 00.540818	00.00 00	0.56526
H _{4/7} (x)	00 6.00 6.00 6.00 6.00 6.00 6.00 8.00 8.	-0m44		00.5517460	20000	000000000000000000000000000000000000000	0.697862 0.10151 0.72476 0.72476	0.74633 0.76034 0.77239 0.78453		988839	0.92486
F _{3/7} (x)	1.15521	1.16118 1.19497 1.20208 1.20932	1.21670 1.23188 1.23968 1.24762	1.25570 1.27230 1.28082 1.28949	1.29830 1.31836 1.32562 1.35503	1.34459 1.34413 1.34413 1.34413	1.4265 1.42665 1.42665 1.42665	1.46.007 1.46.007 1.48.31.7	1.519093 1.51907 1.54388 1.55651	1.586234 1.598234 1.60853	1.63616
	20000 20000 20000	50000	00000	00000	00000	00000	0-000 0-000	00000 00000 00000	0-0000	00000 00000 00000	1.00
T3/7 (x)	00000	00000	00000	00000 00000 00000 00000	00000	00000	00000	00.244099 2440999 2440999	00000 000000 0000000 0000000	00.229927	0.32492
H _{4/7} (x)	00000	000000000000000000000000000000000000000	00000	000000000000000000000000000000000000000	00000	000000000000000000000000000000000000000	00000	00.28494	0000 0000 0000 0000 0000 0000 0000 0000	00000	0.37335
F3/7(x)	0000000	000000 1000000 10000000000000000000000	000000 000000 000000000000000000000000	1.001	1.00.00 0.00.00 0.00.00 0.00.00 0.00.00 0.00.0	\$5000 \$6000 \$6000 \$6000	000000000000000000000000000000000000000	1.08530 1.08530 1.08530	00000 00000 00000 00000 00000	1.1202	1.14905
	00000	50000	2=221	20000	2222	20000	00000	20000	97771	20000	0.50

TABLE 11A. Lanchester-Clifford-Schläfli Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and to 1.50.

x from 0.00

 $\alpha = 3/7$ and

for

 $T_{\alpha}(x)$

0 = 3/7	T _{3/7} (x)	00000	000000000000000000000000000000000000000	00000	0.00000	0.75384	0.75384	0.75384 0.75384 0.75384 0.75384	0.75384	0.75384
	H _{4/7} (x)	190.50812 210.80019 233.29292 258.15645 265.15645	349.74932 386.98855 428.18449 473.75698	524.17032 579.93806 641.62815 709.86875 785.35455	866.85388 961.21644 1063.38196 1176.38974 1301.38913	1439.65124 1592.58180 1761.73543 1948.83137 2155.77090	2384.65663 2637.81382 2917.81387 3227.50044 3570.01821	3948 -84475 4367 - 82572 4831 - 21383 5343 - 71190 591 C - 52045	6537.39037 7230.68112 7997.42512 8645.39888 9783.20173	10820-34285
	F _{3/7} (x)	252.71948 279.66587 309.47366 342.45309 378.93865	419.30250 463.95628 513.35525 568.00295 628.45630	695.33122 769.30895 651.14290 941.66633 1041.80078	1152-56546 1275-08753 1410-61358 1560-52225 1726-33822	1909.74.766 2112.61531 2337.00342 2585.19263 2659.70505	3163.32988 3499.15164 3870.58138 4281.39132 4735.75299	5238.27950 5794.07255 6408.77262 7088.61905	8672-07486 9591-74906 10608-86152 11733-72807 12977-75603	14353.55964
	*	0-046 0-044	40000 Normo	0-144	20180	#####################################	భివిభివిణ గానీ⊱ఉం	0-044	~~~~~ ~~~~~~	0.01
	T3/7(x)	0.72624 0.73122 0.73531 0.74142	0.74367 0.74367 0.74703 0.74827	0.75011 0.75134 0.75184 0.75217	0.75242 0.75293 0.75399 0.75399	00.759 00	0.7536 0.7536 0.7537 0.7537 0.7537 0.7537 0.7537	0.75378 0.75380 0.75380 0.75381	0.75382 0.75383 0.75383 0.75383 0.75383	0.75383
	H _{4/7} (x)	460000 460000 460000 460000	8-1-5-6-5-6-6-6-6-6-6-6-6-6-6-6-6-6-6-6-6	8-92139 9-89402 10-97038 12-16159 13-47996	16.55396 18.55396 20.31944 22.50879	24.93186 27.61356 30.58148 33.86609 37.50113	45.97576 50.90229 56.35404 62.35604	69.06263 76.44966 84.62362 93.66816	114.74901 127.00092 140.55680 155.55520 172.14934	190.50872
	F _{3/7} (x)	5-27065 5-23611 5-80002 6-42568	7.11957 7.88889 8.74163 9.68661	11.89347 13.17819 14.60103 16.17669 17.92145	19.85328 21.99212 24.36000 26.98131 29.88304	33.09505 36.65035 40.585535 44.94097	55.09643 61.000643 67.53473 74.76562 82.76745	91.62221	152.22351 168.47567 166.45759 206.35310 228.36545	252.71%8
	*	2-1-1-1	****		2000 B	11111 0-0m4	*****	พพพพพ อากพล	เกษากับก เกษาของ	3
T3/7(X)	00000	99999	00000	00000	00000	00000	20000	00000	000000000000000000000000000000000000000	000000 0000000 0000000 0000000 00000000
H _{4/7} (x)	+09000 2000 2000 2000 2000 2000 2000 200	1.000	60000 60000 60000 60000 60000	2.09881	2.	2.35136	2.51504	2.56899	2.1925	200000 000000 000000 000000 000000 000000
F3/7(x)	2002	22.22.22	200000 200000 200000 200000	300000	3.156 3.156 3.256	10.00 10.00	30.000 mm	3.76629	3.93799	11111 1 111111 1 1111111 1 1111111 1 111111
	2222	2422	3777	1873	2222	2222	85000	22524	85553	24440

TABLE 11B. Lanchester-Clifford-Schläfli Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and

 $T_{\alpha}(x)$ for $\alpha = 3/7$ and x from 1.50 to 10.0.

T4/7(x)	1.05527 1.05528 1.05518 1.05518	1.05974	1.09863 1.09953 1.09923	1.10327	112254	1.15028	1.15660	1.17158	11190493	1.20285	1.20944	
H _{3/7} (x)	1.564354 1.586180 1.586180 1.586180 1.5980180	1.653011	1.71271 1.73221 1.75186 1.77166	1.83196 1.85240 1.87296 1.87296	1.935703 1.95694 1.97835 1.99994	2.02170 2.06345 2.06575 2.08805 2.11053	2.13320 2.17910 2.20234 2.22578	2.24341 2.297284 2.32152 2.34596	2.39562 2.42051 2.44581 2.44581	2.549712 2.54928 2.54928 2.57569	2.02923	
F 4/7 (x)	1.44345 1.46341 1.50468 1.51537	1.52619 1.54824 1.55947 1.55947	1.58237 1.59403 1.60584 1.61779 1.62989	1.654213 1.65403 1.65777 1.67977	1.70562 1.73209 1.7556 1.75919	1.77298 1.8693 1.80105 1.81532 1.82977	1.85438 1.85416 1.86923 1.90452	1.91999 1.93563 1.95145 1.96744	2.01652 2.01652 2.05017 2.05017	2.0845 2.10845 2.11972 2.13759 2.1559	2.17392	
	00000	00000	0-764	20000	27222	202262	0-Nm3	11111 100 100 100 100 100 100 100 100 1	0-Nm4	44444	1.50	
T _{4/7} (x)	00.000 00.0000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.0000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.0000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.0000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.0000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.0000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.0000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.0000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.0000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.0000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.0000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.0000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.0000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.0000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.0000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.0000 00.000	0.7250 0.73453 0.7355 0.7555 0.75259	0.16134 0.11038 0.17872 0.18726 0.19569	0.80401 0.81224 0.82036 0.82838 0.85838	00.000000000000000000000000000000000000	0.888173 0.98699 0.99699 0.9139 0.91007	0.91692 0.92367 0.93036 0.93091 0.94339	0.94977 0.95607 0.96228 0.96840 0.97444	0.98625 0.98625 0.99771 1.00332	1.00885 1.001966 1.0024946 1.003014	1.03527	
H _{3/7} (x)	0.7426 0.7566 0.77669 0.78479 0.79893	0.881311 0.88134 0.885161 0.88593 0.89393	0.88473 0.98920 0.921374 0.94298	0.95769 0.95769 0.98731 1.00222	1.04736	1.12411	1.20294 1.20294 1.23996 1.23511	1.26766 1.36766 1.31722 1.33395	1.35079 1.36774 1.40196 1.41924	1.545.1	1.52541	
F4/7(x)	1.11.157	1.15956 1.14586 1.15110 1.5556	1.16206 1.17338 1.17338 1.18512	1.19114 1.19727 1.20351 1.20985	1.22286 1.22953 1.23631 1.24320 1.25020	1.25731 1.26455 1.27186 1.27531 1.28688	1.229455 1.310245 1.31624 1.32643	1.34.69 1.35.050 1.35.050 1.36.020 1.36.095	1.37.622	1.4440 1.4440 1.45440 1.55440 1.370	1.47345	
*	00000 20000 20000	2000g	00000	00000	00000 01000	20000	00000	00000	99999 94999	00000	1.00	
T _{4/7} (x) .	00000	0.000000000000000000000000000000000000	00-19860 00-19860 00-2231 00-23159	0.255188 0.265994 0.29519 0.30737	0.34742 0.34742 0.34742 0.34043	0000 0000 0000 0000 0000 0000 0000 0000 0000	000000000000000000000000000000000000000	0.5510100000000000000000000000000000000	000000000000000000000000000000000000000	0.651733 00.651733 00.65183 0.65815	0.66807	
F _{3/7} (x)	00000	000000000000000000000000000000000000000	0.17929 0.19463 0.22478 0.23478	00.256456	0.34044	00000	0.46622 0.48662 0.48380 0.50757 0.52133	0.554808	0.60388 0.61766 0.64527 0.64527	0.64295 0.68683 0.70073 0.71466	0.74260	
F4/7 (X)	00000	1.000.1 0.000.1 0.000.1 0.000.1 0.000.1 0.000.1	1.000438 1.000438 1.000438 1.0004431	1.00.22	1.02126	1.02746	000000	1.05512 1.055129 1.06990 1.06790	1.007090 1.0074593 1.0074593 1.0074593	1.099003	1.11157	
	00000	50000 20000	35000	20000	00000	50000	00000 4mmm 4mmm 4mmm	99999 WWWWW WWWWW	32331	00000	6.50	

TABLE 12A. Lanchester-Clifford-Schläfli Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and $T_{\alpha}(x)$ for $\alpha = 4/7$ and x from 0.00 to 1.50.

(x)(x)	H3/7(K)	T _{4/7} (x)								c/+ = 0
	2000 2000 2000 2000 2000 2000 2000 200	\$ 4 m m m m m m m m m m m m m m m m m m	*	F4/7 (x)	H _{3/7} (x)	T4/7 (x)	* 6 3	F4/7 (x)	H _{3/7} (x)	T4/7(x)
	25.12 25.12 25.13	1.22199	0-14	3-3-8428 3-71076 4-07103 4-91330	4-13375 4-13375 5-27818 5-82021	1.288168 1.288168 1.286168 1.301618	36969	164.99174 182.10835 201.00541 221.86839 244.90215	218-86467 241-57070 266-63852 294-31420 324-86946	1.32655
v 6400	2.91129	25555	4.0000	5.94041 5.94065 6.53665 7.9391	7.100 4.100 6.100	1.30972 1.31521 1.31521 1.31992	20000	270.33290 298.41044 329.41064 363.63818		22222
	3.00 5 1 2 3	1.23 842 1.24 172 1.24 172 1.24 172	0-Nm4	8-72171 9-60664 10-58343 11-66155 12-85148	12.69435 12.69435 13.99486 15.42934 17.01171	1.32234 1.32234 1.32334 1.32334	0-04	443.15614 489.22847 540.09985 596.27016 658.29272		2222 2222 22222 22222 22222 22222 22222 2222
	# # # # # # # # # # # # # # # # # # #	25574	₩₩₩₩ ₩₩₩₩	14.16478 15.615420 17.21385 18.97929 20.92769	18.75.73 22.60807 25.15257 27.73953	1.32464 1.32464 1.32564 1.3256	200.00	726.77774 802.39937 885.90216 578.10839 1079.92621	964.09527 1064.41065 1175.17944 1297.49424 1432.55915	1.3265
-	344 65 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	1.25516	37771	23.07805 25.45130 28.07058 30.96144 34.15206	30.59416 33.742656 37.22654 41.05691	1.32568 1.325684 1.32596 1.32607	88888 3 64664	1152.35862 1316.51334 1453.61383 1605.01131 1772.19815	1581.70466 1746.40024 1928.26881 2129.10284 2350.88200	22222
4 4NF0	00000000000000000000000000000000000000	1.26.75	11111 No-ma	37.67340 41.56043 45.85052 50.58579 55.81251	49.96350 55.12066 67.09506 74.02933	1.32622 1.32628 1.32632 1.32636	ტოდდდ •••••••	1956-82264 2160-10525 2385-85663 2634-49754 2909-08076	2595.79281 2866.25017 3164.92129 3494.75209 3858.99625	1.32653
	2007 2007 2007 2007 2007 2007 2007 2007	1.26653 1.26880 1.26880	กับเก่า อากพล	61.58180 67.95006 74.97967 82.73938	81.68325 90.13169 99.45731 109.75138	1.32642 2.32644 1.32646 1.32647 1.32648	04000	3212-31536 3547-19354 3917-02016 4325-44549 4776-50131	4261.24747 4705.47498 5196.06282 5737.85318 6336.19435	32565
20000	4-006946 4-006946 4-006946	1.27206	พละตน พละตน	100.76094 1111.19932 122.72263 135.44380 149.48759	133.65857 147.50587 162.79230 179.66772 198.29760	1.32669 1.32669 1.32651 1.32651	04000 N9-80	5274-64079 5824-78258 6432-35948 7103-37220 7844-44879	6996.99364 7726.77579 8532.74759 9422.86922 10405.93299	32665
00400	4-25524 4-25524 4-25524	1.27770 1.27898 1.27998 1.28079	0.0	164.99174	218.86467	1.32652	0.01	8662.91020	11491.65041	1.32653
	4*33755	1.26168								

TABLE 12B. Lanchester-Clifford-Schläfli Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and $T_{\alpha}(x)$ for $\alpha=4/7$ and x from 1.50 to 10.0.

 $T_{\alpha}(x)$ for

T _{5/7} (x)	2.06980 2.06980 2.08356 2.09027	2.109389 2.109389 2.11608	2.12836	2.1573 2.1573 2.17863 2.17863 1.7863 1.7863	2.19404 2.19404 2.29404 2.20386	2.20861 2.21328 2.22237 2.22237 2.22337	2.23515 2.23545 2.23566 2.24380 2.24380	22.25.25.25.25.25.25.25.25.25.25.25.25.2	2.270872.270872.2281449	2.29182 2.29182 2.29482 2.29482 2.39801 2.30114	2.30422
H _{2/7} (x)	2-88550 2-86550 2-91955 2-91965 2-91965	2.9733 3.00033 3.00033 3.0003 3.0003 3.0003	3-11.22 7 3-16925 3-16924 3-19803 3-22 703	34.25% 34.25% 34.53% 34.53%	3-40564 3-46700 3-46700 3-49804	WWWWW 66666 66666 66666 66666	3-7221 3-78521 3-78859 3-88289 3-8628	8-9-9-9-9-9-9-9-9-9-9-9-9-9-9-9-9-9-9-9	4.06517 4.13721 4.13721 4.17369	4-24757 4-38499 4-38077 4-39914	4.43785
F _{5/7} (x)	1.37632 1.39266 1.40099	1.42661	1.46228 1.48078 1.49019	1.50936 1.52900 1.53898 1.54909	1.55932 1.56966 1.58013 1.59071 1.60142	1.62321 1.62321 1.63428 1.65549	1.66828 1.69159 1.70344 1.71542	1.72753 1.73978 1.75217 1.7734	1.80507 1.80507 1.81615 1.82937	1.85624 1.86989 1.86368 1.91753	1.92597
*	00000	50000	0-12-12		0-2000	59285	O-IVE	#19285 ####################################	22771	*****	1.50
T _{5/7} (x)	1.52705 1.54221 1.55714 1.57184	1.60059 1.62849 1.642849 1.65556	1.68183 1.69183 1.69467 1.70732	1.73207 1.75416 1.75608 1.76782 1.77938	1.007d 1.00200 1.002000 1.002005	1.005563 1.005563 1.0055063 1.0055063 1.00550	1.99573 1.90535 1.91684 1.93419	1.94246 1.95139 1.96018 1.96883	1.98574 2.00213 2.01013 2.01801	2.02577 2.03340 2.04031 2.04631 2.05558	2.06275
H _{2/7} (x)	1.66313 1.70525 1.75954 1.75170	1.77382 1.79596 1.81810 1.86264	1.9884 1.92981 1.92914 1.95144	2.01864 2.01864 2.06114 2.06314	22.10 22.11 22.11 20.15 20.15 20.5 20.5 20.5 20.5 20.5 20.5 20.5 20.	222.867 224685 224867 226853	2.34055 2.38624 2.411893 2.411893	2.58439	2.58279 2.65773 2.65281 2.683681 2.68342	2.70895 2.76648 2.76649 2.81266	2.83900
F _{5/7} (x)	1.09278 1.09278 1.10035 1.10035	1.110823	1.12934	1.15737	1.17772 1.18302 1.19861 1.1936	1.20509 1.21663 1.22265 1.22855	1.23466 1.24782 1.25349 1.25349	1.26650 1.27314 1.27988 1.28671	1.30067 1.30779 1.31590 1.32973	1.33725 1.34486 1.35257 1.36839	1.37632
Street Street	00000 04000	00000 00000	00000	00000	99000 20000 20000	99000	00000 00000	00000 00000 00000	00000	00000	1.00
T _{5/7} (x)	0.00	000000000000000000000000000000000000000	0.650 0.65598 0.65598 0.73214 0.76349	0.853324	0.95894 0.95894 0.98613 1.00875 1.03284	1.02643 1.10218 1.12439 1.14618	1.16756 1.20916 1.22941 1.22941	1.26881 1.30701 1.32560 1.34390	1.35189	1.44769	1.52705
H2/7(x)	00000	00000 444000 444000 4460000 446000 446000 446000 446000 446000 446000 446000 446000 4460000 4460000 4460000 4460000 4460000 4460000 4460000000 44600000000	000000000000000000000000000000000000000	00000	0.94626 0.94626 1.02086 1.053750	1.0079	1.22045	1.32376	1.48440	1.55182	1.66313
F _{5/7} (x)	000000	92775	000000000000000000000000000000000000000	1.000789	1.01746	1.02378 1.02378 1.02565 1.027665	1.003371	1.04579 1.04579 1.05107 1.05107	1.05966 1.062956 1.06559	1.07193 1.07521 1.08267 1.06550	11690.1
	00000	00000	00000	00000	22000	いったい	00000 mmmm n-nm+	00000 mmmmm mmmm mmmm mmmm mmm mmm mm mm	99999 31711	00000 24444 24444	0.50

TABLE 13A. Lanchester-Clifford-Schläfli Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and $T_{\alpha}(x)$ for $\alpha = 5/7$ and x from 0.00 to 1.50.

	T _{5/7} (x)								c = 5/7
55555 5555 5555 5555 5555 5555 5555 5555	2.30422 2.30724 2.31021 2.31313	×	F _{5/7} (x)	H _{2/7} (x)	T _{5/7} (x)	×	F _{5/7} (x)	H _{2/7} (x)	T _{5/7} (x)
	2.32459 2.32459 2.32696 2.32696	0-10-0-1	2.86200 3.11226 3.38830 4.02789	6-88178 7-51817 8-21618 8-98218 9-82310	2.40453 2.415663 2.452487 2.43248	99999 0-0m4	116.54607 128.31133 141.27392 155.55627 171.29339	287.62985 316.66644 348.65799 383.90666	22.22.22
	2.33468 2.33468 2.33968 2.35969	20000	4.39721 4.80389 5.25161 5.74443 6.28682	10.74658 112.87562 14.10052	22.54.4. 22.44.4. 22.45.175. 22.464.5. 23.464.5. 23.464.5. 23.464.5. 23.464.5. 23.464.5. 23.464.5. 23.464.5. 24.645.	00000 00000	188.63415 201.74261 228.79991 252.00563 277.57975	512.70183 512.70183 564.67077 621.94183 685.05819	2.46797 2.46797 2.46797 2.46797
	22.22.3 22.3466.3 23.3466.3 33.52.33 33.52.33 34.52.33		6.88371 8.26335 9.05863 9.3375	16.92695 18.555624 20.34362 22.31145 24.47575	2.45898 2.465898 2.46195 2.46301 2.46301	0-11-1-	305.76505 336.82921 371.06741 458.80519 450.40159	754-61886 831-28444 915-78346 1008-91936 1111-57821	2.46191
	2.35756 2.35756 2.35756 3.35766 3.357666 3.35766 3.35766 3.35766 3.35766 3.35766 3.35766 3.35766 3.357	WWWW.	10.89672 11.95636 13.12242 14.40564 15.81783	26.85638 32.35628 35.55616 39.01407	2.46463 2.46613 2.46613 2.46613	20180	496.25257 546.79485 602.51007 663.92949	1224.73724 1349.47425 1456.97796 1638.55946 1805.66482	33333
5657136	2.36758 2.36758 2.37373 2.37374	יייייי	17.37204 19.08263 20.96542 23.03787 25.31920	42.85220 47.07602 51.72464 56.84113 62.47294	2.46696 2.46696 2.46714 2.46729	0-N-4	866.28500 868.58021 979.31095 1079.34451 1189.63759	1989-88904 2192-99140 2416-91242 2663-79257 2935-99288	22.22.22.22.22.22.22.22.22.22.22.22.22.
	2.37493 2.37669 2.37669 2.37641 2.38176	11111	27.83060 30.59561 33.63938 36.99088	68-67241 75-49716 83-01073 91-28315	2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.	**************************************	1311.24544 1445.33217 1593.18185 1756.21102 1935.98231	3557.04018 3931.92918 4334.28075 4777.95140	22.56191
03023 08345 13716 24604	2.384499 2.38657 2.38657 2.38962	พูพูพูพูพู อากพล	44.7468 49.21945 54.14731 59.57444 65.55171	121-46542 131-62794 147-02256 161-77484	2.46783 2.46783 2.46786 2.46788	90000 0-1044	2134-21954 2352-82441 2553-89483 2859-74524 3152-92902	5267-19550 5806-70635 6401-66157 7057-77317 7781-34273	33333
30124 35693 41314 52710	2.39111 2.39251 2.39400 2.39540 2.39678	นุ่มเหน่น กจะตุฉ	72-13521 79-38677 87-37456 96-17372 105-86711	178.02323 195.92032 215.63436 237.35081 261.27416	2.46792 2.46793 2.46793 2.46794 2.46794	******* ******	2630 8553 11343 2755	8579-32242 9459-38226 10429-98434 11500-46471 12681-12386	22.46797
	2.39913 2.40077 2.40205 2.40330	0:0	116.54607	287.62985	2.46795	10.0	5065.91613	13983,32643	2.46797
	2.40453								

TABLE 13B. Lanchester-Clifford-Schläfli Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and from 1.50 $\alpha = 5/7$ and $T_{\alpha}(x)$ for

T4/9 (x)	00.6038 00.60334 00.61085 00.61427	0.62096	00000	0.65413 0.65688 0.65956 0.65956	0.001235	0.681713 0.68174 0.68404 0.68404	0.069845 0.069270 0.069270 0.069478	0.00588	0.70830 0.71009 0.71186 0.71359	0.71861 0.72022 0.72186 0.72180	0.72488
H _{5/9} (x)	0.97391 0.98774 1.00568 1.00574	1.05462 1.05862 1.07315 1.08781	1.13252	1.22964 1.22546 1.24142 1.25752	1.27377 1.30668 1.32335 1.34018	1.35715 1.39154 1.40897 1.42656	1.44430 1.464220 1.468220 1.49850	1.53545 1.55418 1.57308 1.59215 1.61140	1.65042 1.65042 1.67020 1.71032	1.75118 1.77189 1.79280	1.83521
F4/9(x)	1.62626 1.63982 1.65356 1.65356	1.68159 1.72502 1.72502 1.73502	1.75490 1.7855 1.86116 1.81697	1.83298 1.84918 1.86559 1.88220 1.89901	1.91603 1.9325 1.95068 1.96833	2.00426 2.02255 2.04106 2.05979	2.09791 2.11732 2.13695 2.15681 2.17690	2-19722 2-21779 2-23859 2-25963 2-26092	2-30245 2-34626 2-36626 2-36854 2-36854	2-41386 2-43691 2-46022 2-48380 2-50764	2.53175
*	00000	00000	04/14	201.00	27222	2262		 	32331	 	1.50
T _{4/9} (x)	00.351000.351000.351000.3510000.35100000.3510000000000	0.3883500.00.00.00.00.00.00.00.00.00.00.00.00.	0.41377	000000000000000000000000000000000000000	0.47590	0.50164 0.50660 0.51150 0.5180	0.52581 0.52581 0.53546 0.535046	0.55843 0.55843 0.55277 0.55105	0.56543 0.56953 0.57357 0.58148	0.58535 0.58916 0.59661 0.60025	0.60384
H _{5/9} (x)	00000	0.459901	0.550000 0.550000 0.550000 0.550000 0.550000 0.550000 0.5500000	00.556211 00.556211 00.556413 00.556413	0.6527884	70000	0.71932	0.17929 0.80393 0.81640 0.82896	0.85438 0.85438 0.86724 0.88020 0.89327	0.91912	0.97391
F4/9(x)	11155693	1.17466 1.18795 1.19480	1.20889 1.2351 1.2351 1.23868	1.25547	1.29614	1.33211 1.34146 1.35097 1.36062	1.38038 1.39048 1.40074 1.41116	1.43245	1.58846 1.50014 1.51199 1.52401	1.54854 1.56107 1.57376 1.58662	1.61287
*	00000 0-0000	90000 80000 80000	00000 99999 0=0	00000 99999 89688	99999 51747	00000 20000 20000	00000	00000	00000	00000 00000 00000	00.1
T4/9(x)	000000000000000000000000000000000000000	0.02984	0.06426 0.07138 0.07855 0.08577	0.10033 0.10766 0.11501 0.12238	0.13717 0.14458 0.15199 0.15940	0.17422 0.18162 0.18801 0.19639 0.20375	0.21109 0.22571 0.23299 0.24023	0.24745 0.25463 0.26179 0.26890 0.27598	0.28303 0.29603 0.29699 0.30391 0.310391	0.31761 0.32439 0.33760 0.34443	0.35101
H _{5/9} (x)	0.0000000000000000000000000000000000000	0.02988	0.0000000000000000000000000000000000000	0.10160 0.10921 0.11688 0.12462	0.14027 0.14818 0.15614 0.16417	0.18851	0.2200000000000000000000000000000000000	0.26468 0.287341 0.291218 0.29991	0.30885 0.31785 0.32691 0.34692 0.34519	0.35442 0.36371 0.37305 0.39192	0.40145
F4/9(x)	000000	1.00204 1.00276 1.003876 1.003876	1.005681	1.01268 1.01630 1.01638 1.02037	1.02258 1.02490 1.02734 1.03256	1.03535	1.05510	1.06964	1.09125 1.09594 1.10975	1.11592	1.14369
*	00000	56056	2222	24742	22222	20000	00000	20000 20000 20000	32221	24223	C. 50

TABLE 14A. Lanchester-Clifford-Schläfli Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and $T_{\alpha}(x)$ for $\alpha = 4/9$ and x from 0.00 to 1.50.

6/4 = 0	T4/9(x)	0.80320	0.80321 0.80321 0.80321 0.80321 0.80321	0.00321	0.00321	0.80321	0.80321	0.80321 0.80321 0.80321 0.80321	000000	0.80321	
	H _{5/9} (x)	213-06478 235-70843 260-75386 288-45549	352.98269 352.98269 390.46350 431.91763 477.76585	528.47343 584.55489 646.57917 715.17539 791.03924	874.94000 967.72831 1070.34478 1163.82951	1448.12572 1601.61572 1771.35568 1959.06669	2996-20540 2650-05949 2930-78153 3241-21324 3584-49673	3964.10624 4383.88321 4848.07513 5361.37839 5928.98572	6556-63863 7250-68538 8018-14507 8866-77849	10842.79601	
	F4/9 (x)	239.78122 265.26857 293.45969 324.64105 359.12941	397.27510 439.46550 486.12900 537.73930 594.82027	984-99274 890-39504 984-84556	1204-30204 1204-32353 1332-58110 1473-86967 1630-12111	1802.91869 1994.01315 2205.34035 2439.04073 2697.48122	2983.27890 3299.32752 3648.82678 4662.70298	4935.31726 5457.94009 6035.85958 6674.92275 7381.59456	9027-11229 9027-11229 9982-6006 11039-1501	134 99. 29508	
	*	0-044	99999 89699	0-000	20180	⊕ @@@@@ ⊖=//44	v. • • • • • • • • • • • • • • • • • • •	04000	******	0.01	
	T _{4/9} (x)	0.17381 0.17910 0.18345 0.78702 0.78995	0.79235 0.79593 0.79725 0.79833	0.79922 0.79994 0.80105 0.80102	0.80175 0.80201 0.80223 0.80241 0.80255	0.80267 0.80285 0.80285 0.80292	0.80301 0.80305 0.80308 0.80310	0.80314 0.60315 0.60317 0.80317	0.80319 0.80319 0.80320 0.80320	0.80320	
	H _{5/9} (x)	3.20597 3.97083 4.41401 4.90362	5.44468 6.70403 7.43525 8.24394	9-13839 10-12780 11-22230 12-43311 13-77266	15.25465 16.89427 18.70830 20.71531 22.93582	25.39254 28.11058 31.111772 34.44467 38.12540	42.19749 46.70249 51.68637 57.19994 63.29943	70.04700 77.51141 85.76871 94.90298 105.00723	116 - 18432 128 - 52404 157 - 35158 174 - 08446	192.59281	
	F4/9(x)	4.14312 4.58162 5.06842 5.60854 6.20754	6.87159 7.60752 8.42290 9.32612	11.43418 12.66066 14.01848 15.52156 17.18533	19.02681 21.06681 23.32039 25.81643 28.57854	31.63496 35.01693 38.75901 42.89942 47.48046	52.54887 56.15639 64.36021 71.22362	87.21650 96.50895 106.78865 118.16019 130.73944	144.65443 160.04676 177.07305 195.90649 216.73860	239. 78122	
	*	0-1000	~~~~~ ~~~~~	o-lum.	www.e.w	11111 0-nm+	*****	พูพูพูพูพู อากพล	เกลาะขอ	•••	
T4/9(x)	0.724 0.72638 0.72784 0.72929	0000 17320 1	00.00 73.99 74.20 74.20 75.20 75.20 75.20 75.20 75.20 75.20 75.20 75.20 75.20 75.20 75.20	4444	00000 111281	00000 175566 1756666 175666 175666 175666 175666 175666 175666 175666 175666 1756666 175666 175666 175666 175666 175666 175666 175666 175666 1756666 175666 175666 175666 175666 175666 175666 175666 175666 1756666 175666 175666 175666 175666 175666 175666 175666 175666 1756666 1756666 175666 175666 175666 175666 175666 175666 175666 175666 1756666 175666 175666 175666 175666 175666 175666 175666 175666 1756666 175666 175666 175666 175666 175666 175666 175666 175666 1756666 175666 175666 175666 175666 175666 175666 175666 175666 1756666 175666 175666 175666 175666 175666 175666 175666 175666 1756666 175666 175666 175666 175666 175666 175666 175666 175666 1756666 175666 175666 175666 175666 175666 175666 175666 175666 1756666 175666 175666 175666 175666 175666 175666 175666 175666 1756666 175666 175666 175666 175666 175666 175666 175666 175666 1756666 175666 17	75505	0000 7651 7651 7651 7651 7651 7651 7651	76.000	000000000000000000000000000000000000000	0.77381
H _{5/9} (x)	1.85671 1.85641 1.90032	201298	200000000000000000000000000000000000000	2000 2000 2000 2000 2000 2000 2000 200	2.3325. 2.3325. 2.3325. 2.3325. 2.3325. 3.3325	02.47.0 0.45.0 0	11999	2.7234 2.7234 2.7234 2.76396 2.81639 2.81639	2.99745	3-03717 3-103717 3-10370	3.20597
F4/9(x)	2.55175 2.55613 2.55613 2.56613 2.56613	22.708.50	2.94.2 2.94.242 2.94.242 2.94.296	2.92740	100000 100000 100000 100000 100000	3.22961 3.29607 3.29607 3.39607	3.462129 5.465129 5.4	3.56617 3.66186 3.66186	3.74 840 3.74 840 3.82404 3.96247	2000 2000 2000 2000 2000 2000 2000 200	**************************************
	03355	2424	33333	58583	2222	2252	95361	28538	35555	5666	2.00

TABLE 14B. Lanchester-Clifford-Schläfli Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and

 $T_{\alpha}(x)$ for $\alpha = 4/9$ and x from 1.50 to 10.0.

T _{5/9} (x)	0.96573 0.97537 0.98004 0.98467	0.99371 0.99371 1.00247 1.00675	1.0019100.1	1.03465 1.03465 1.04231 1.04595	1.059551	1.06656 1.06980 1.07298 1.07611	1.08522 1.08520 1.08812 1.09100 1.09382	1.09960	1.10979	1.12187	1.13293
(x) 6/ % H	1.43634 1.45387 1.48921 1.50708	1.52508 1.56147 1.55147 1.57988	1.655490	1-732270	1.83241 1.85299 1.87368 1.87368	1.93578 1.95816 1.97971 2.00145	2.0623 2.0634 2.06775 2.09022	2.13574 2.18879 2.20549 2.22914	2.25299 2.35299 2.358132 2.35860 2.35860	25.45.9	2.50326
F _{5/9} (x)	1.55.08 1.55.0	1.55298 1.56441 1.57599 1.58771	1. 5995 1. 62376 1. 62376 1. 63807 1. 63807	1.66116 1.68686 1.68686 1.71319	1.72659 1.74016 1.75388 1.76777	1.82491 1.82497 1.83969 1.85458	1.86964 1.90029 1.91589	1.94760 1.96374 1.99655 2.01323	2.09011 2.06442 2.06442 2.06442	2.11.73 2.11.7	2.20954
	00000	20000			22222	258-46.5 258-46.5 258-46.5	11.32	1	0-12m4	*****	1.50
T _{5/9} (x)	00000000000000000000000000000000000000	0.66894 0.67758 0.68837 0.694837	0.70331 0.71966 0.71991 0.73912	0.75409 0.75195 0.75739 0.76797	C. 78245 0.78984 0.79713 0.80434 0.81145	0.82539 0.82539 0.83222 0.83222 0.83522 0.84562	0.085866 0.085866 0.087506 0.087756	0.000 000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.	0.09180 0.92428 0.92428 0.93503	44000	0.96573
H _{4/9} (x)	0.68493 0.69829 0.72514 0.73514	0.75216 0.77938 0.79398 0.80680	0.82059 0.88443 0.88443 0.86834 0.86834	0.9890 0.91888 0.91888 0.94745	9618 9999 9999 9999	1.03517 1.05507 1.06505 1.09526	1.11050	1.20388	1.26410 1.306442 1.317395 1.317395	1.35 1.35 1.35 1.35 1.45 1.45 1.45 1.45 1.45 1.45 1.45 1.4	1.43639
F _{5/9} (x)	1.11478 1.11478 1.129435 1.13435	1.15947	1.17251	1.20598	1.22932 1.23619 1.259315 1.25025 1.25746	1.27521 1.27976 1.28743 1.28743	1.30312 1.31929 1.32756 1.33594	1.35445 1.35308 1.35184 1.37973	1.39888 1.40751 1.41751 1.41751	1.45646	1.48736
	00000			00000		20000	00000 0~000		90000 90000 90000		
T _{5/9} (x)	9555	0.009960	935	4525	0.28983 0.29983 0.31212 0.32431 0.3438	96769	0.41798	0.46235 0.46235 0.46393 0.564557	566955 566955	00000 00000 000000 000000 000000	0.61441
H4/9(X)	00.00	00.099478	0.15720	0.22591	0.329260	0.337820 0.337820 0.33423 0.41024	00.445 00.45 00	00000	00000	00000	0.68493
F _{5/9} (x)	1.000000	1.000113		1.0101151	1.01.00.00	1.03.05.7 1.03.05.9 1.03.300 1.03.500 1.03.500	99999	1.05567 1.06523 1.06524 1.06524	00000	258-5 259-5	1.11670
*	00000	00000	9=201	00000	277777 20000	20000	0-775	00000 mmmmm mmmmm mmmmm mmmm mmmm mmmm	99999 54444 54444	00000 00000	0.50

TABLE 15A. Lanchester-Clifford-Schläfli Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and $T_{\alpha}(x)$ for $\alpha = 5/9$ and x from 0.00 to 1.50.

	x F _{5/9} (x) H _{4/9} (x)	20000000000000000000000000000000000000	0.000000000000000000000000000000000000	7.0 7.1 7.1 7.1 7.1 7.2 7.4 7.4 7.4 7.4 7.4 7.4 7.4 7.4	7.5 761-49225 948-05822 7.6 940-9470 1046-99331 7.8 1025-5848 1156-15889 7.9 1132-56427 1409-96882	1250.67622 1381.19269 1525.34424 1684.55646 1860.40405 2316.	200 - 200 -	3376-10590 3728-74870 4118-25705 4548-48737 5023-69967	9-5 5548-5986 7 7629-013-5 9-7 6128-386-37 7629-013-5 9-7 6128-386-37 7629-013-5 9-8 7476-1898-6 935-865-5 9-8 8557-5582-010286-865-5	10.0 9120.64845 11355.2184
	T _{5/9} (x)	1.20215 1.20976 1.21603 1.22120	1.22896 1.23421 1.23421 1.23775	1.24.00 1.24.10 1.24.10 1.24.23	1-24320 1-24320 1-24333 1-24379	24446	1.24470 1.24476 1.24480 1.24484	1.24489 1.24491 1.24493 1.24494	1.24496 1.24497 1.24498 1.24498	1.24499
	F _{5/9} (x) H _{4/9} (x)	3.45958 4.15895 4.17078 5.0718 5.04139 5.17801	5.54681 6.81681 6.10538 7.52085 6.105255 8.29700 7.40432 10.09671	8.98900 11.13782 19.90737 12.28636 12.04109 14.95173 13.27730 16.49462	14.64214 18.19729 16.14898 20.07640 17.64913 24.43943 21.67672 26.96043	2 5 9 5 4 2 5 9 5 4	39.12382 48.69750 43.17730 53.74522 52.55262 53.31802 52.55376 65.47063 58.04920 72.26352	94.07262 79.76344 70.72323 88.04413 78.06642 97.18702 86.17442 107.28202 55.12701 118.42853	105.01228 130.73616 115.92754 144.32608 117.98027 159.3321 141.28915 154.19902	172.21345 214.40339
		0-000		0-Nm+	M-97-99	o-nme	4444 	NNNNN GMNWA		•••
T _{5/9} (x)	1.13293	111111111111111111111111111111111111111	1155229	1.16072	1.16988	1.17544	1.18183	1.18765	11.19493	1.19777
H4/9(x)	25.55 602603 602603 7.58603 7.	22.649	25.00 25.00	2.9528 2.9528 2.9528 3.01330	3.04 3.04 3.04 3.04 3.04 3.04 3.04 3.04	3.5360 3.5360 3.3660 3.0600 3.0600 3.0600 3.0600 3.0600 3.	3.44.03.45.45.45.45.45.45.45.45.45.45.45.45.45.	3.57.948 3.65210 3.668210 3.66893	3.00 S S S S S S S S S S S S S S S S S S	3.95662
F5/9(x)	2.220954 2.220954 2.24785 2.24785	2.30691 2.367702 2.367735 2.36735	2.443091 2.443091 2.44509 2.44509 2.44509	2.54051	2.65508	2. 75303 2. 77791 2. 80305 2. 82. 846	2.98007 2.99829 2.99829 2.99829 2.99899	3.06943 3.06943 3.06943 3.12612	3-15409 3-21335 3-24303	3.30332
	9=000	2222	0-00	N-91-80	2222		0-044	N-00	0-1004	500

TABLE 15B. Lanchester-Clifford-Schläfli Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and $T_{\alpha}(x)$ for $\alpha = 5/9$ and x from 1.50 to 10.0.

T3/11(x)	0.28920 0.29920 0.29204 0.29269	0.299400	0.305456	000000000000000000000000000000000000000	0.3173 0.32018 0.32136 0.32255	00.32593	0.339114	00.000	00.3399	00000	0.34616
H _{8/11} (x)	00.58777	0.6289 0.63957 0.65025 0.65105	0.68298 0.70537 0.71673	0.73982 0.75394 0.77539 0.77536	0.81201 0.82448 0.83708 0.84981	0.86267 0.88880 0.90206 0.91547	0.92901 0.95652 0.95652 0.97049	1.001327 1.001327 1.004254 1.054254	1.08766 1.10293 1.11842	1.16587	1.23148
F _{3/11} (x)	2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00	2-12457 2-14841 2-17251 2-19704 2-22184	2.24696 2.29820 2.32483 2.32433	2-40473 2-43222 2-48202 2-48007 2-48826	2.51682 2.54573 2.57501 2.60466 2.63468	2.66507 2.69584 2.72699 2.75852 2.75852	2-88524 2-88554 2-98585 2-95210 2-95210	2.99035 3.06027 3.09586 3.13188	3.24623 3.2462823 3.2462833 3.2462833 3.246283	3-35721 3-43594 3-47600 3-51653	3.55754
10.00	00000	00000	2-1111	59286	07222	11111 202020 202020	0-11-11 0-12-11-11-11-11-11-11-11-11-11-11-11-11-	11111 8.00-80 8.00-80	97775	*****	1.50
T3/11 (x)	00.1570	0.17082 0.17417 0.174197 0.186749	0.18727 0.19047 0.19363 0.19676 0.19986	0.20595 0.20894 0.211990 0.211990	0.22934	00.234159 00.2346859 00.234685	00.2444 00.2444 00.25184 00.25184	00.226.000	0.26771 0.27192 0.27192 0.27397	0.27799	0.28741
H _{8/11} (x)	0.19558 0.20148 0.20148 0.21349	00000000000000000000000000000000000000	0.25129 0.25784 0.26448 0.27118	0.29176	00.3270000000000000000000000000000000000	0.35773 0.36546 0.37328 0.38118	00.39724	00.000	00.50000 00.50000 00.50000 00.50000 00.50000	000000000000000000000000000000000000000	0.57771
F _{3/11} (x)	1.23485	1.29562 1.30744	1.35182 1.35384 1.35586 1.37822 1.39080	1.42993 1.42993 1.45919 1.45719	1.47117 1.48540 1.549986 1.51450	1.54470 1.554470 1.57584 1.59178	1.62442 1.64112 1.65809 1.67531	1.71055 1.72857 1.74686 1.76541	1.82273 1.84240 1.86234 1.86234	1.92390 1.94499 1.94499	2.01006
	นูออบอ เพลเลน อากพล	00000 800000 800000	00000	00000	00000	20000	00000	00000 00000	0-0-0-0	90009 90009 90009	1.00
T3/11(x)	00000	0.0000000000000000000000000000000000000	0.002748 0.002271 0.002271 0.002847	0.03422	0.05983	0.06372 0.06721 0.01673 0.01788	000000	00.000	0.11785 0.12149 0.125149 0.13235	000000000000000000000000000000000000000	0.15367
H _{8/11} (x)	00000	000000000000000000000000000000000000000	0.02027 0.02301 0.025901 0.025901	00000	00000 00000 00000 00000 00000 00000 0000	000000000000000000000000000000000000000	0.09261 0.09260 0.09707 0.10161	00000	00000	00000	0.10975
F3/11(x)	000000	1.00229 1.00339 1.00549 1.00587	000000	1.02963 1.02953 1.02979 1.03321	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	1.06238 1.06238 1.07242 1.07242	1.06323 1.09461 1.10991 1.10717	1.12035 1.12732 1.13429 1.14191	111111111111111111111111111111111111111	1-19934	1.23465
	00000	55555	9=7=1	20000	27224	20000	9999	20000	32771	24444	0.50

TABLE 16A. Lanchester-Clifford-Schläfli Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and $T_{\alpha}(x)$ for $\alpha = 3/11$ and x from 0.00 to 1.50.

	T3/11 (*	0.38002 0.38002 0.38002 0.38002	0.380002	000000000000000000000000000000000000000	00005	00000	000000	00.38002	00.38002	0,38002	
	H _{8/11} (x)	178.96450 198.62384 220.42550 244.60175 271.40993	334.09340 334.09340 370.63459 411.14653 456.05879	505.84728 561.03923 622.21865 690.03252 765.19749	848.50742 940.84162 1043.17407 1156.58359 1282.26508	1421.54198 1575.88009 1746.9024 1936.40820 2146.38742	2379.04575 2636.82542 2922.43103 3238.85767 3589.42213	3977-79731 4408-05044 4884-68531 5412-68907 5997-58398	9038-693-693-693-693-693-693-693-693-693-693	11054-15705	
	F3/11(x)	\$22.06591 \$22.06591 \$80.03475 \$43.65215	792-41445 679-14094 975-29576 1081-89926 1200-08186	1331-09587 1476-32861 1637-31692 2013-55334	2232.77622 2745.74571 2745.02474 3043.45221 3374.17228	3740.66754 4146.79510 4596.82687 5095.49407 5648.03650	6240.25709 6938.58234 7650.12918 8522.77897 9445.25952	10467-23577 11599-41029 12853-63442 14243-03139 15782-13262	19375-5558 21467-38047 23784-40639 26350-79765	29193.33137	
	*	99999	*****	0-11-1	~~~~	04666 0404	బ్రాజ్లు బాల్లు బాల్లు	0-0m4	₩ ₽ ₩₽₽	10.0	
	T3/11(x)	0.36790 0.37398 0.37398 0.37367	00.00 00	0.378645 0.37898 0.37917	0.37945 0.37996 0.37971 0.37971	0.37982 0.37989 0.37989 0.37991	0.37999 0.37999 0.37999 0.37999	00.3388000	0.388002 0.388002 0.388002 0.388002	0.38002	
	H _{8/11} (x)	2.03076 2.05908 3.027978 3.02757	4.1408 5.25726 5.88128 6.57473	7.34555 9.20518 9.15415 10.21201 11.38745	12.69344 14.14437 15.75618 17.54657 19.53517	24.19638 26.91988 29.94990 33.30131	37.02860 45.156619 50.85642 56.51384	65.79221 69.75921 77.48985 86.06730 95.58370	106.14119 117.85297 130.84449 145.25477 161.23786	178.96450	
	F _{3/11} (x)	7.10165 7.95658 8.90980 9.97211	11.15547 12.47321 13.94012 15.57260 17.36893	19.40935 21.456933 24.15483 30.02017	33.45181 37.26528 41.50251 46.21003 51.43944	57.24797 63.69909 70.86318 78.81826 87.65088	57.45698 108.34293 120.42666 133.63889 148.72456	165.24436 183.57632 203.91787 226.48778 251.52855	279.30894 310.12681 344.31227 382.23113 424.28878	+70.93444	
	*		20000		waman waman	3777	33333	wwww.	พละอง	•	
,3/11/2,	0000 0000 0000 0000 0000 0000 0000 0000 0000	00000 40000 40000 40000 40000	00000 00000 00000 00000 00000 00000 0000	0000 0000 0000 0000 0000 0000 0000 0000 0000	00000 00000 00000 00000 00000 00000 0000	00.000000000000000000000000000000000000	00000 00000 000000 000000 000000000000	00-36-95-00-00-00-00-00-00-00-00-00-00-00-00-00	00000 000000 000000 000000 000000 000000	00000 000000 0000000 00000000000000000	0.36790
"8/11 (x)	1.25984	1.35306	1145	100 00 00 00 00 00 00 00 00 00 00 00 00	1.0645450	1.75355	1.052118	10000000000000000000000000000000000000	25.00 25.00	2.2423 2.24423	2.33076
*3/11(X)	3.5575	3.46 3.46 3.46 3.46 3.46 3.46 3.46 3.46	00000 00000 00000 00000	44.22.24 4.33.24 4.33.22.24 4.33.22.24 4.33.22.24 4.33.22.24 4.33.22.24 4.33.22.24 4.33.22.24 4.33.22.24 4.33.22.24 4.33.22.24 4.33.22.24 4.33.22.24 4.33.24 4.34.24 4.34.24 4.34.24 4.34.24 4.34.24 4.34.24 4.34.24 4.34.24 4.34.24 4.34.24 4.3	4.59029 4.59029 4.59029 4.59029	1.86328 1.86328 1.91975 1.91975	5.03459 5.09299 5.15204 5.21175	50000000000000000000000000000000000000	20000000000000000000000000000000000000	6.00000	6.33533
•	2222	255	*****	2223	2777	22222	32224	20000	8232	24545	2.00

Lanchester-Clifford-Schläfli Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and $T_{\alpha}(x)$ for $\alpha = 3/11$ and x from 1.50 to 10.0. TABLE 16B.

T _{5/11} (x)	0.63940 0.63699 0.64652 0.64600	0.654743 0.65738 0.65738 0.65738	0.66376 0.66993 0.67294 0.67590	0.68169 0.68450 0.68728 0.69728	0.69532 0.69532 0.69791 0.70297	0.70543 0.71023 0.71257 0.71486	0.71712 0.72152 0.72152 0.72367	0.72784 0.73187 0.73383 0.73576	0.73765 0.74133 0.74133 0.7489	0.74661 0.74998 0.75162 0.75322	0.75480
H _{6/11} (x)	1.00692 1.005102 1.004959 1.004959	1.07862 1.09332 1.10814 1.12309	1.15335 1.16867 1.18412 1.21542	1.23127	1.31259 1.32928 1.34611 1.36309 1.36302	1.39750 1.41493 1.43255 1.45026 1.45026	1.504623 1.502683 1.54138 1.54138	1.57898 1.61727 1.63667 1.65625	1.67901 1.73637 1.73637 1.75686	1.77755 1.81948 1.84074 1.86220	1.88385
F _{5/11} (x)	1.59890 1.62522 1.63865 1.65224	1.67997 1.69411 1.72843 1.72292	1.75248 1.76753 1.78278 1.7922	1.81384 1.82967 1.84569 1.87831	1.99493 1.92817 1.94599 1.96342	1.98107 1.99892 2.01699 2.03527 2.05377	2.07248 2.09142 2.11058 2.12996 2.14957	2.16941 2.20978 2.23031 2.25109	2.27210 2.31484 2.33658 2.3588	2.42604 2.42604 2.47204 2.47230	2.49582
*	00000	20000	27777	29285	22222	11.25 22.25 25 25 25 25 25 25 25 25 25 25 25 25 2			94444	2444 4444 8444	1.50
T _{5/11} (x)	0.34586 0.34595 0.39624 0.39555	00197	00000000000000000000000000000000000000	0.46376 0.46376 0.48106 0.48670	0.49227 0.509778 0.50852 0.51390	0.000 .0000	00000 000000 0000000000000000000000000	0.00 0.00	0.0000000000000000000000000000000000000	00000000000000000000000000000000000000	0.62976
H _{6/11} (x)	00000	000000000000000000000000000000000000000	0.55222000.5543312	0.57550	0.63062 0.64187 0.66461 0.66461	0.68767 0.69933 0.72290 0.73481	0.7568 0.7568 0.7568 0.7683 0.79569	00.00 00		0.000	1.00692
F _{5/11} (x)	1.14624	1.17074	1.20420 1.21128 1.21850 1.22584 1.23332	1.24868 1.25857 1.25459	1.28947	1.33462 1.34305 1.35248 1.35248	1.37179	1.44408	1.51037 1.51037 1.51037 1.52401	1.54830 1.56830 1.56070 1.57326	1.59890
*	00000 04000	00000 00000 000000 00000	30000 0-000 0-000	00000 49999 49999	00000	20000	00000 00000 00000 00000	00000	99999 94999	00000	1.00
T5/11(x)	000000000000000000000000000000000000000	0.003274	00.000000000000000000000000000000000000	0.10771	0.15424	0.18522 0.20065 0.20085 0.21602	0.22366 0.23129 0.23888 0.24644 0.25398	0.26148 0.26894 0.27636 0.28110	0.29840 0.30566 0.31287 0.32716	00.334 00.344 00	0.36880
H _{6/11} (x)	000000000000000000000000000000000000000	00000	000000000000000000000000000000000000000	0.117000	0.15796 0.15796 0.17469 0.17469	0.20016	0.23482	0.27928 0.29742 0.30657 0.31577	00.33460 00.3460 00.3460 00.36360 00.36	00000	0.42061
F _{5/11} (x)	000000	1.0001	0.00000	97626	1.02435 1.02435 1.02923 1.03923	1.04035	1.04988 1.05882 1.06046 1.06042	1.00000 1.0072000 1.00001 1.00001	1.00992	111333	1.14048
*	00000	56565	99999	55555	22222	20000	94494 94494	20000	32321	23223	0.50

TABLE 17A. Lanchester-Clifford-Schläfli Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and $T_{\alpha}(x)$ for $\alpha = 5/11$ and x from 0.00 to 1.50.

a = 5/11	T _{5/11} (x)	000000000000000000000000000000000000000	00000	00000	000000000000000000000000000000000000000	00000	00000	00000	00000	0.83608	
	H _{6/11} (x)	294-01-080 214-61577 297-38098 2962-55713 2962-75913	351-18946 352-23956 352-89439 434-53522 480-58362	531.50574 587.81696 650.08715 718.94640 795.09138	979-29237 972-40105 1075-35909 1189-20764 1315-09787	1454-30254 1608-22887 1778-43276 1966-63443 2174-73584	2404-83981 2659-27129 2940-60078 3251-67024 3595-62178	3975.92935 4396.43373 4861.38131 5375.46686 5943.88088	6572.36193 7267.25448 8035.57285 8885.07192 9824.32531	10862.81176	
	F _{5/11} (x)	256-69525 288-69525 283-92350 314-03538 347-33597	\$84.16261 424.86830 469.92547 519.73014 574.80653	635.71217 703.06350 777.54210 859.90160 550.97525	1051-68436 1163-04758 1286-19120 1422-36050 1572-93233	1739-42900 1923-53362 2127-10712 2352-20700 2601-10810	2876-32553 3180-64004 3517-12609 3889-18285 4300-56846	4755.43794 5258.38510 5814.48886 6429.36442 7109.21993	78692.05006 9611.00255 10627.05178 11750.45229	12992.54118	
	*	0-044		0-104	20-80	0-20m4	00000 00000 00000	0-Nm+	00-20 0000	0.0	
	T _{5/11} (x)	00551 00591	00.000 00.0000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.0000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.0000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.0000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.0000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.0000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.0000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.0000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.0000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.0000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.0000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.0000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.0000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.0000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.0000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.000 00.0000 00.000	00.0032092 00.0033092 00.00332692 00.00332692	0.684695 0.683506 0.683506 0.83520	000000 000000 000000 000000 000000 00000	0.003591 0.003594 0.003594 0.003594	00000000000000000000000000000000000000	0000 00000 00000 00000 00000	0.83607	
	H _{6/11} (x)	4.00444 4.004444 4.004444 4.004444	66.154 66.154 7.60.00 7.60.00 8.30.00 8.80.00 8.00.00 8.00 8.00.00 8.00 8.00.00 8.00.00 8.00.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.0	9.28847 10.28447 11.39120 12.61526 13.96912	15.46660 17.12296 18.95511 20.99170 23.22339	258-44579 28-44579 31-44579 34-83555 36-83555	42.65331 47.19484 57.71420 63.91960	70.71674 78.23464 86.54965 95.74618 105.91758	117-16706 129-60876 143-36890 158-58702 175-41744	194.03080	
	F _{5/11} (x)	4.00673 4.968990 5.49880 6.07694	7-43912 7-43912 8-23218 9-11044	11.15945 13.67013 15.12988 16.74529	16.53284 20.51075 22.69921 25.12051 27.79932	30. 76293 34.04152 37.66846 41.68066	51.02846 56.45912 62.46613 69.11059 76.45996	84.58892 93.58004 103.52460 114.52356 126.68861	140.14315 155.02369 171.48119 189.68257 209.81238	232.07472	
	× ·				manaa		4444			9	
(X)	09000	2552	0 6 4 8 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	7357 7357 7357 7357 7357 7357 7357 7357	**************************************	78794 78794 78894	t toler	79519 79519 79519 79519	5455±	. 2550 Z	
T _{5/11} (x)	20000	00000	00000	50000		00000	100000	90000	00000	000000	
H _{6/11} (x)	1.90598 1.90598 1.00599	20000 84144 84144 84144 84144	20000 10000 10000 10000 10000 10000	2.23 2.23 2.25 2.25 2.25 2.25 2.25 2.25	2.36.39 2.36.39 2.488.39 2.484.25 2.484	22.22 22.22 22.22 22.22 22.22 22.22 23.22	2.000 00 00 00 00 00 00 00 00 00 00 00 00	200000	200000 4400000 4400000 4400000	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
F _{5/11} (x)	22.22 22.22 22.22 23.22	20000 10000 10000 10000 10000	20000 20000 20000 20000 20000	22.90979	20.00 20.00	1982	1. 16204 1. 16604 1. 16604 1. 16605	3.5044 3.5344 3.5344 3.60993	3.68210 3.71886 3.79882 3.79882	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	
	55555	22222	3333	1111	2525	2222	25251	2000	8288	25555 8	

TABLE 17B. Lanchester-Clifford-Schläfli Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and

 $T_{\alpha}(x)$ for $\alpha = 5/11$ and x from 1.50 to 10.0.

T _{6/11} (x)	0.92434 0.93371 0.93829 0.94279	00000 965160 966013 966013	0.99743	0.99166	1.00596	1.02255 1.02570 1.02880 1.03185	1.00378 1.004968 1.004968 1.004968	1.05180	007197	1.07640	1.08716
H _{5/11} (x)	1.40050 1.41050 1.43504 1.5253	1.47013 1.50572 1.52372 1.54186	1.57014 1.57755 1.59711 1.61582	1.65367 1.67282 1.69212 1.71158 1.73119	1.75096 1.77089 1.79098 1.81124 1.83166	1.85225 1.87301 1.91505 1.91505	1.95780 1.97944 2.02328 2.04548	2.06787 2.09045 2.11322 2.13619 2.15936	2-20630 2-20630 2-23008 2-25406 2-27826	2.30266 2.35728 2.37718 2.40247	2.42797
F _{6/11} (x)	1.550745 1.528833 1.528857 1.552857	1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55	1.62331 1.63571 1.64827 1.66099	1.68688 1.70007 1.71341 1.72692	1.75442 1.75442 1.76842 1.78258 1.79691	1.82608 1.82608 1.85992 1.8594 1.87113	1.98650 1.91777 1.93367 1.94976	1.99603 1.99913 2.01597 2.03299	2.05021 2.06762 2.08522 2.10302 2.12102	2.15763 2.17624 2.17624 2.21408	2.23331
* L	11000	50000	2222		11111 233220 733720	11.22 11.22 12.24	045284		0-1244	*****	1: 50
T _{6/11} (x)	0.58 0.59 0.60 0.60 0.60 0.60 0.60 0.60	0.66421 0.66421 0.66421 0.65260 0.65260	0.667720 0.685720 0.685720 0.095720	0.70869 0.72633 0.73138 0.73870	00.745 00.76025 00.76025 00.7675 00.7675	0.78773 0.78773 0.79438 0.80094 0.80741	00.82630 00.82630 00.82630 00.82630 00.82630	00.8504 00.85034 00.85034 00.8504 00.8548 00.8	000000000000000000000000000000000000000	00000	0.92434
H _{5/11} (x)	00.000000000000000000000000000000000000	0.11962	0.78274 0.79621 0.86973 0.82332 0.83696	00000000000000000000000000000000000000	0.93438 0.94859 0.94859 0.94723	0.099167 1.0020920 1.0020920 1.00350927	1.086513 1.09513 1.125513	1.156083	1.254998 1.254992 1.257098 1.267196	1.32 6.93 6.93 6.93 6.93 6.93 6.93 6.93 6.93	1,38341
F _{6/11} (x)	1.12692	1.15287	1.16986	1.20036 1.20036 1.21933 1.22675	1.247062 1.247062 1.24733 1.26796	1.26976 1.28734 1.29583 1.30078	1.31702 1.32532 1.32532 1.34229	1.35096 1.35096 1.36866 1.37776	1.40663 1.416567 1.416567 1.43478	1.4444	1.49664
•	00000 04000	00000 wwww worso	00000	00000 00000 00000	00000	25000	00000	20000 88888 88888 8888 8888 8888 8888 8	00000	00000 00000 00000	1.00
F _{6/11} (x)	00000000000000000000000000000000000000	0.0000000000000000000000000000000000000	0.15492 0.15492 0.16977 0.16576 0.19502	0.20747 0.21992 0.23206 0.25419 0.25623	0.26816 0.28000 0.29174 0.30339	0.33778 0.34905 0.34905 0.34905	00.338232 00.498232 00.41475 0.41475	00000	0.59723 0.59723 0.50712 0.51692	0000 0000 0000 0000 0000 0000 0000 0000 0000	0.58287
H _{S/11} (x)	00000 00000 00000 00000 00000 00000 0000	00000	00.1154000000000000000000000000000000000	00.220262	0.22969	00.34688000.3468800000000000000000000000000000000000	0.45000 0.44200 0.4430	000000000000000000000000000000000000000	00000	00000	0.65102
F _{6/11} (x)	000000	000001 000000 000000 0000000 0000000000	1.00459	00011100	1.022227 1.022227 1.02435 1.02435	1.02879 1.03361 1.03616 1.03616	000000000000000000000000000000000000000	1.05670 1.06003 1.06966 1.07057	1.07429 1.08201 1.08602 1.09603	1.094	1.11692
	00000	50000	00000	50000	00000	55555	00000	SOCOO SOCO SOCOO SOCOO SOCOO SOCOO SOCOO SOCOO SOCOO SOCOO SOCOO SOCOO SOCO SOCOO SOCOO SOCOO SOCOO SOCOO SOCOO SOCOO SOCOO SOCOO SOCOO SOCOO SOCOO SOCO	99999 9-1444	50000	0.50

TABLE 18A. Lanchester-Clifford-Schläfli Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and $T_{\alpha}(x)$ for $\alpha = 6/11$ and x from 0.00 to 1.50.

a = 6/11	H _{5/11} (x) T _{6/11} (x)	213-8565 1.19605 258-24199 1.19605 255-17489 1.19605 314-92103 1.19605	347.77456 1.19605 364.06039 1.19605 424.13744 1.19605 468.40220 1.19605 517.29263 1.19605	571.29252 1.19605 630.93633 1.19606 696.81441 1.19606 769.57894 1.19606 849.95034 1.19606	12444	1036-78041 1-19606 1145-08942 1-19606 1264-72434 1-19606 1396-87034 1-19606	20041 20041 20041 20041 20141	224041 224041 224041 224041 2441 2441 24	1044 Orden notto menos 44mm hemma menda menos 0040 400 100 100 100 100 0040 100 100 100 100 100 0040 100 100 100 100 100 100 100 100 100	20018 0101 10111	### CAPA CAPA CAPA CAPA CAPA CAPA CAPA C
	F _{6/11} (x) H	177.06395 195.52444 233 215.91260 258 238.43078 265 263.30080 314	290.76886 347 321.10661 384 354.61415 428 391.62295 458	477-64739 571 527-51434 630 582-59366 696 643-63061 7696 710-62752 849	84.97A	866-83243 1036 957-38745 1145 1057-41185 1264 1167-89653 1396	841889 841889 841889 841889 861889 861899 861899 861899 861899 861899 861899 861899 861899 861899 861899 861899 861899 861899 861899 861899 861899 86189 861	95 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9			
	*	99999 0-mm4	19999 Normo	0-000					NOTES CHURT NOTES CHURT	Notae O-104 Notae O-104 Notae	words church words church words c
	T _{6/11} (x)	11154	1.18959	1.19133 1.19213 1.19288 1.19388		1.19393 1.19463 1.19489	1.19993 1.19993 1.19953 1.199527 1.19953 1.19953 1.19953	666666 66666 666666 666666 666666 666666	######################################	######################################	60000000000000000000000000000000000000
	H _{5/11} (x)	44440 44440 44440 44440 64440 64440 64440 64440	6.66275 7.35478 8.11788 9.98952	10.91230 12.04260 13.28393 14.66655 16.18597		17.86311 19.71445 21.75818 24.01440 26.50528	254563 241141 254363 241141	200000 000000 000000000000000000000000	### ##################################	10000 00000 00000 00000 000000 000000 0000	19.78411 221.778441 226.55548 26.55548 27.25533 39.2525533 39.2525533 39.2525533 39.252568 39.252
	F _{6/11} (x)	3.50987 4.236987 5.65967 5.65941	5.64397 6.21548 7.54500 8.31603	9-10-10851 10-10851 11-14754 12-29503 13-56224		16-50694 16-50694 18-21335 20-09764 22-17833	14.96164 18.50694 18.50694 20.09764 22.17833 24.47588 27.01291 27.01291 27.9185 32.9816437 32.981637	+08000 +1-00000 +1-0000 +1-0000 +1-0000 +1-0000 +1-0000 +1-0000 +1-0000 +1-000	11010 2000 11000 1	111100	110000
	*	0-1444	20000	0-24		46466	44444 44444 44444	wayaa aanaa aanaa			
T _{6/11} (x)	90000	00000000000000000000000000000000000000	000111	111575		1.12169	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	* 00000 100115 10018 0 00000 10018 10018 10018 0 00000 10018 10018 10018 0 00000 10018 10018 10018 0 00000 10018 10018 10018 10018 10018 0 00000 10018 1001	* 00000 10017 100186 800014 0 4460 80000 10017 60000 0 10017 100186 800014	1 00000 10011 10011 11111 11111 11111 11111 11111 11111 1111	1 00000 10010 100000 100000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10
B _{5/11} (x)	5-5-5-5-5-5-5-5-5-5-5-5-5-5-5-5-5-5-5-	20000 20000 20000 20000 20000	2.69596 2.7251 2.7251 2.7852 2	00000		2.98934 3.02018 3.05131 3.06273	400000 400000 000000 400000 000000 400000 000000 400000 0000000000	Nowake demand design Nowake Nowak	Numan dunun dunun dunun Numan dunun dunun Numan dunun dunun dunun Numan dunun dunu	Munda quant quan	Munua unuau unuau unuau unuau unuau unuau Munua
F _{6/11} (x)	2222 2222 2222 2222 2222 2222 2222 2222 2222	25.22.22.22.22.22.22.22.22.22.22.22.22.2	22.22.22.22.22.22.22.22.22.22.22.22.22.	25.55		2.66504	10020000000000000000000000000000000000	44000 44000 00000 48000 00000 00000 48000 00000 00000 480000 00000 00000 480000 00000 00000 480000 0000 480000 0000 48000 0000 480	44000 44000 00000 00000 00000 00000 00000 00000 0000		
*	32324	****	97004	50000		2222	2222 2222	010m4 & 010m 010m4	0	5-1744 6-124 5-1744 6-186 6-1744 6-186 6-1744 6-174	

TABLE 18B. Lanchester-Clifford-Schläfli Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and $T_{\alpha}(x)$ for $\alpha = 6/11$ and x from 1.50 to 10.0.

(x) T _{8/11} (x)	2.2.2.5 2.2.2.5 009 2.2.2969 2.2.3969 2.2.3961 2.2.3961	2.257091 2.257091 2.257091 2.276367	112 93 2.28276 93 2.29498 95 2.30694 199 199 199 199 199 199 199 199 199 1	9934 2-31825 3924 2-31823 3926 2-32929 6141 2-32929	2.25 2.33998 40 2.35930 77 2.35930 77 2.35930		2.39235 76 2.39235 76 2.40132 12 2.40550	2.40961 662 2.41361 31 2.42151 11 2.42151	22 2-42910 963 2-43280 14 2-43644 78 2-44001	49 2.45036 53 2.45696 53 2.45696 56 2.45696	93 2.46333
k) H _{3/11} (x)	000 mm m m m m m m m m m m m m m m m m	25.002 25.002 25.002 25.002 25.002 25.002	5 3 3 4 4 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	mmmmm	MMMMM	mmmm	3 4.02901 2 4.02901 3 4.02900 4.05900 6 4.05900	4 4 4 1 1 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	######################################	2020-	7 4.70093
F _{0/11} (x)	1.39996 1.39996 1.39996 1.39996	1-41 026		1.509492 1.51949 1.52897 1.53888	1.55690	11.000	1.65576 1.65573 1.67862 1.70198	7239	1.7752 1.8007 1.8007 1.8136	######################################	1.90837
	00000	00000			2222		0-10-4		Omnme 4444 	4444	1.50
T8/11 (x)	1.66167 1.67743 1.69294 1.72325	1.73263 1.75263 1.76163 1.76163	1.000077 1.000077 1.000077 1.000000	1.87428 1.88680 1.91912 1.92321		2.00195 2.00195 2.00195 2.00195 2.001999	22.00 22.00 22.00 22.00 22.00 22.00 22.00 23.00 20.00	2.09149 2.10064 2.110974 2.110974	22.114607 22.114607 22.1161294 23.1161294	25.002 25	
H _{3/11} (x)	1.83025 1.833025 1.85340 1.8554 1.8954	1.94590 1.94590 1.96903 1.99216 2.01532	2.08171 2.06171 2.08495 2.10825	2.15495 2.201835 2.22536 2.24896	2.272 2.32636 2.32638 2.34611 2.34611	22.22	22.55 22.55 22.55 25.55	2.63870 2.66400 2.66400 2.71500	2.79655 2.79556 2.81871 2.815011	20000000000000000000000000000000000000	
F _{8/11} (x)	1.09478 1.09478 1.09478	1.110528 1.11057 1.11434 1.11848	1.12701	1.15973	1.17450	1.20137 1.20137 1.201271 1.201271 1.20137	1.23039 1.242646 1.242646 1.24262	1.26164	1.29517	1.35-00 1.35-00 1.35-01 1.35-0	
* 1 3 - 3 0 3 0 3 0 0 0 0 0 0 0 0 0 0 0 0 0	50000	00000 00000 000000	99999	00000	22224	50000	00000	00000	00000	4444 4444	
T _{8/11} (x)	00.00 00	0.54000 0.588153 0.63235 0.63235	0.75236 0.75236 0.78866 0.82366	8.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0	11.09658 1.09658 1.09658 1.09658 1.09658 1.09658 1.09658 1.0968 1.09658 1.0968	1.24044	1.326794 1.326794 1.326959	1.45222	10000 10000	7.09.29.49.29.49.49.49.49.49.49.49.49.49.49.49.49.49	
H _{3/11} (x)	0.0000000000000000000000000000000000000	0000 00000 00000 000000 000000	00000	0.99657 0.96113 0.96224 1.094224	1.00	1.24769	1.32591	1.50003	1.57243	1.79	
F ₀ /11 (x)	00000	\$2000 \$2000	000000	00011	00000	1.023119 1.023119 1.023119 1.023119	1000000 10000000 100000000000000000000	0.0000	55333	00000	
*	00000	66666	20000	55555	20000	20000	00000	20000	99999 54444 54444	44444	

TABLE 19A. Lanchester-Clifford-Schläfli Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and $T_{\alpha}(x)$ for $\alpha = 8/11$ and x from 0.00 to 1.50.

a = 8/11	T _{8/11} (x)	2.65.65	25.5.2	200000	25.5.2	77777	22222	2.63141	2.63141 2.63141 2.63141 2.63141	2.63141	
	H _{3/11} (x)	298.00235 328.01160 361.06877 397.48501 437.60336	530.49202 530.49796 584.15092 643.26779	780-18621 859-28354 946-44874 1042-50804 1148-37254	1265.04698 1393.63930 1535.37136 1691.59063 1863.78312	2053.5871 2262.81185 2493.44896 2747.69760 3027.98264	3336.97859 3677.63533 4053.20654 4467.28105	5427.18208 5962.19147 6594.15848 7268.94369 8013.01197	9833.49486 9738.25943 10735.98430 11836.24347 13049.59883	14387.70229	
	F _{8/11} (x)	124.65910 137.21551 151.05446 166.30031	183.09678 201.00233 221.99168 244.45744 269.21201	296.48960 326.54842 359.67322 396.17800 436.40900	480. 74802 529. 61612 583. 4764 642. 84465 708. 28186	780.41208 859.92219 947.56974 1044.19024 1150.70518	1268-13095 1397-58856 1540-31451 1697-67262	2062.45773 2273.37443 2505.93638 2762.37073 3045.13429	3356.93721 3700.76916 4079.92823 4498.05276 4959.15653	5467.66752	
	×	9999	*****	 		00000 0-11-1-1	**************************************	04000 04004	00000 00000	10.0	
	T _{8/11} (x)	2.5462 2.51769 2.58714 2.59496 2.60141	2.60673 2.61112 2.61771 2.62016	2.62218 2.62383 2.62519 2.62519 2.62722	2.62798 2.62860 2.62910 2.62952 2.62986	2.63014 2.63037 2.63056 2.63071 2.63084	2.63094 2.63103 2.63110 2.63116 2.63120	2.63124 2.63130 2.63132 2.63132 2.63134	2.63135 2.63134 2.63134 2.63134 2.63139	2.63139	
	H _{3/11} (x)	7.24991 7.91347 8.64118 9.43961	12.334917 13.49570 14.77107 16.17255	17.1284 19.40592 21.26792 23.31353 25.56363	28.03801 30.75927 33.75231 37.04456	44.65057 49.03427 53.85769 59.16532 65.00619	71.43430 78.50918 86.29638 94.86817 104.30420	114.69220 126.12890 138.72089 152.58561 167.85258	184.66448 203.17841 223.56837 246.02487 270.75878	298.00235	
	F8/11(x)	2.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00	4.32.955 5.16140 5.64274 6.17235	6.15502 8.101193 8.87692 9.73028	10.66904 11.70179 12.83796 14.08796 15.46326	16.97650 18.64158 20.47386 22.49022 24.70929	27.15159 29.83973 32.79861 36.05571 39.64127	43.58864 47.93457 52.71956 57.98826 63.78986	70.17859 77.21423 84.96267 93.49653 102.89588	113.24897	
	*	0-nm4	ne-ec ninini	o-New o-New		97777	11111	www.	ພາບພາຍ ຄາຈົນສອ	3	
T _{8/11} (x)	3335	25.22 26.66 26 26 26 26 26 26 26 26 26 26 26 26 2	22.55 24.55 24.55 25.55	22.22 20.22	2.5218.3	2.5526 2.5526 2.553026 2.533026 2.533026 2.533026 2.533026 2.533026	200000 200000 200000 200000	22.55 25.55	200000 200000 200000 200000 200000	24040 24040 24040 24040	2.56627
H _{3/11} (x)	11111 6425 6425 6425 6425 6425 6425 6425 6425	44400 00000 00000 00000 00000	20000	20000000000000000000000000000000000000	2004W	50000000000000000000000000000000000000	20000	44400 4400 400 400 400 400 400 400 400 400 400 400 400 400 400 4	00001 10000 10000 10000	\$0404 \$00000 \$00000 \$00000	1.24991
F _{8/11} (x)	55055 55055 55055 55055 55055 55055 55055 55055 55055 5505 5005 5005 5005 5005 5005 5005 5005 5005 5005 5005 5005 5005 50	25.000 25.0000 25.000 25.000 25.000 25.000 25.000 25.000 25.000 25.000 25.0000 25.000 25.000 25.000 25.000 25.000 25.000 25.000 25.000 25.0000 25.000 25.000 25.000 25.000 25.000 25.000 25.000 25.000 25.0000 25.000 25.000 25.000 25.000 25.000 25.000 25.000 25.000 25.0000 25.000 25.0000 25.000 25.000 25.000 25.000 25.000 25.000 25.000 25.000 25.000 25.000 25.000 25.000 25.000 25.000 25.000 25.0000 25.000 25.000 25.000 25.000 25.000 25.000 25.000 25.000 25.0000 25.000 25.000 25.000 25.000 25.000 25.000 25.000 25.000 25.0000 25.000 25.000 25.000 25.000 25.000 25.000 25.000 25.000 25.0000 25.000 25.000 25.000 25.000 25.000 25.000 25.000 25.000 25.0000 25.000 25.000 25.000 25.000 25.000 25.000 25.000 25.000 25.0000 25.000 25.000 25.000 25.000 25.000 25.000 25.000 25.000 25.0000 25.000 25.000 25.000 25.000 25.000 25.000 25.000 25.000 25.0000 25.000 25.000 25.000 25.000 25.000 25.000 25.000 25.000 25.0000 25.000 25.000 25.000 25.000 25.000 25.000 25.000 25.000 25.0000 25.000	2.00563 2.00780 2.00780 2.00780	20000000000000000000000000000000000000	22.22.2 22.22.2 22.22.22 22.22.22 22.22.	2025 2025 2025 2025 2025 2025 2025 2025	27777	22.22.22.22.22.22.22.22.22.22.22.22.22.	23433 23433 22433	2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.	2.82508
•	85000	2222	*****	*****	25000		25701	*****	85551		2.00

TABLE 19B. Lanchester-Clifford-Schläfli Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and

 $T_{\alpha}(x)$ for $\alpha = 8/11$ and x from 1.50 to 10.0.

T _{5/13} (x)	00-47343 00-47433 00-47616 00-47616 00-47616	0.48462 0.48971 0.49229 0.49283	00000 00000 00000 00000 00000 00000 0000	00.50 00.51	0.52216 0.52216 0.52419 0.52619	0.533190 0.533190 0.53566 0.53566	0.544092 0.54432 0.54432 0.54432	0000 55445 0005 5582 5582 5582 5582 5582 5582 558	000000000000000000000000000000000000000	00000	0.56847
H _{8/13} (x)	000000000000000000000000000000000000000	000000000000000000000000000000000000000	0.94551 0.94651 0.94611 0.97382	1.00164 1.002597 1.004333 1.004433	1.07345 1.00821 1.10311 1.11814	1.14864 1.17971 1.19547 1.21137	1.22742 1.24363 1.25998 1.27649 1.29316	1.30999 1.34412 1.34412 1.36143	1	1.52489 1.52489 1.54393 1.54393	1.58250
F _{5/13} (x)	1.72635	1.80739 1.82425 1.84132 1.85861	1.87613 1.91184 1.94846	1.98611 2.00514 2.02451 2.04412	2.06397 2.08406 2.12500 2.12500	2.16694 2.20990 2.23178 2.25391	2.27631 2.32192 2.34513 2.3661	2.404.2 2.4074 2.4035 2.40535 2.40535	2.54092 2.54092 2.59670 2.61916	2-64584 2-72758 2-7275 2-7558	2. 78392
*	00000	00000	01754	59286	01255	2220	0-225		32332	*****	1.50
T _{5/13} (x)	0.2628 0.26820 0.27849 0.28393	0.28989 0.2998 0.2998 0.9998 0.9998 0.9929	0.31422 0.323911 0.32835 0.33849	0.334783 0.34783 0.35197 0.35197	0.386091 0.386930 0.378930 0.37813	00.386 0.38649 0.39057 0.39460 0.39659	00.400 00	00000000000000000000000000000000000000	00. 44458 00. 44458 00. 44688 00. 44688 00. 46888 00. 46	00000	0.47043
H _{8/13} (x)	0.314658 0.314658 0.330374 0.33092	00000	00.39992	0000 0000 0000 0000 0000 0000 0000 0000 0000	0.500000	00000	000000000000000000000000000000000000000	0000 66432 666432 6664124 661134 661134	0.69872 0.71009 0.7157 0.73157	0000 1447 1446 1446 1446 1446 1446 1446 1446	0.80479
F _{5/13} (x)	1.16620 1.18009 1.18726 1.19458	1.20205	1.25010 1.25010 1.25865 1.26736	1.28526 1.32445 1.31331 1.32299	1.35283 1.35284 1.35302 1.35336	1.3845 1.39542 1.41765 1.41765	1.44.058 1.454.22 1.476.31 1.476.31	1.50104 1.52650 1.53650 1.559550	1.59669 1.59366 1.60744 1.62159	1.665051 6.665051 6.665051 6.665051	1.11077
*	10000 04000	00000	00000	00000 00000 00000	99999	522.85	00000	00000	00000 00000 00000	00000	1.00
F _{5/13} (x)	0.00239	0.001732	00000 00000 00000 04000 04000 04000	000000000000000000000000000000000000000	0.09367		000000000000000000000000000000000000000	0.17938 0.18511 0.19082 0.14651	00-2194 00-2194 00-2196 20-224 00-224	454000 254157 25	0.26288
H _{6/13} (x)	000000000000000000000000000000000000000	0.02172	00000	0.001287	000000000000000000000000000000000000000	00000 000000 0000000000000000000000000	00000	0.20088	75.00 25.25.00 25.00 25.25.00	40400 60000 700000 700000 700000 700000	0.30658
F _{5/13} (x)	000000	1.00163	1.000.1	11.000	1.02.676	1.004721	1.005 1.00 1.005 1.005 1.00 1.005 1.005 1.005 1.00 1.005 1.00	1.08051 1.08523 1.09509 1.09509	1.110553	20100	1.16620
	00000	50000	9=2004	20000	27757	20000	99999 9-000	20000	32331	23223	6.30

TABLE 20A. Lanchester-Clifford-Schläfli Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and $T_{\alpha}(x)$ for $\alpha=5/13$ and x from 0.00 to 1.50.

a = 5/13	T _{5/13} (x)	00000	000000000000000000000000000000000000000	0002222	000252000000000000000000000000000000000	0002	0.0002	000000000000000000000000000000000000000	000000000000000000000000000000000000000	0.63002
	H _{8/13} (x)	205-71737 227-82750 252-30447 279-40103	309.39683 342.60134 379.35700 420.04272 465.07779	514-92615 570-10114 631-17076 698-76349 773-57472	856.37385 948.01216 1049.43153 1161.67407 1285.89276	1423.36323 1575.49680 1743.85493 1930.16511 2136.33854	2364.48964 2616.95765 2896.33048 3205.47112	3926.06177 4344.89202 4808.32589 5321.10723 5888.48390	6516-26128 7210-86144 7979-38858 8829-70145 9770-49341	10811.38101
	F _{5/13} (x)	254.82997 326.52983 361.62402 443.48405	491.09493 543.79888 602.13944 666.71805 738.20021	817.32232 904.89918 1001.83236 1109.11941	1359.28765 1504.74128 1665.71999 1843.87788 2041.04502	2259.24617 2500.72147 2767.94933 3063.67175 3390.92229	3753.05709 4153.78911 4597.22603 5087.91219 5630.87494	6231.67594 6896.46790 7632.05733 8445.97396 9346.54752	10342.99263 11445.50277 12665.35416 14015.02067 15508.30090	17160.45881
	×	99999		0-0-0-	*****	0-25	000000 00000	0-0-0-	00000 00000	0.01
	T _{5/13} (x)	0.60723 0.61476 0.61754 0.61754	0.623167 0.623449 0.6254449 0.625455	0.62752 0.62752 0.62758 0.62835 0.62835	0.62910 0.62910 0.62921 0.62941	0.62968 0.62946 0.62979 0.62983	0.629887 0.629989 0.62994 0.62994	0.62998 0.62998 0.62999 0.62999	000000000000000000000000000000000000000	0.63001
	H _{8/13} (x)	2.84199 3.55030 4.41794	4.92206 5.48070 6.09941 6.78474 7.54392	8.38497 9.31675 10.34909 11.49285 12.76006	14-16403 15-71952 17-44284 19-35205 21-46717	23.81032 26.40601 29.28137 32.46644 35.99445	39.90219 44.23040 49.02416 54.33336 60.21324	66.72492 73.93607 81.92156 90.76428 100.55596	111.39811 123.40309 136.69524 151.41217 167.70615	185.74572
	F _{5/13} (x)	5-19867 5-17510 5-17510 7-12731	7.91747 8.79455 9.76786 10.84770 12.04548	13.37387 14.84689 16.48004 18.29055 20.29746	22.52187 24.98714 27.71914 30.74651 34.10098	37.81766 41.93541 46.49729 51.55094 57.14910	63.35016 70.21874 77.82641 86.25233	105.91894 117.36404 130.03830 144.07328	176-82328 195-87776 216-97536 240-33449 266-19687	294.82997
	10 mm	0-044	~~~~		wwww	37777	*****	พูพูพูพูพู อากพล	พ.พ.พ.พ.พ พ.จ.๛๑ฉ	•
T5/13(x)	00000	00000 00000 00000 00000	0.000 000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.	00000	0000 00000 00000 00000 00000 00000 00000	20000000000000000000000000000000000000	0.59603	\$ 985.00 \$ 986.00 \$ 9	000000000000000000000000000000000000000	0.505833 0.505833 0.505833 0.505833 0.50723
H _{8/13} (x)	1.58258 1.662199 1.662199	7.72369	1.00000 1.00000 1.00000 1.00000	1.94032	22.22	22.210520	2.26.5 2.26.5 2.31888 2.31888 2.31888	22.4.4.0 22.4.4.0 22.4.4.0 22.4.4.0 22.4.4.0 22.4.4.0 22.4.4.0 23.4.4.0 24.0 2	22.596.83 22.596.83 22.596.83 22.596.83 22.596.83 23.596.83 23.596.83 23.596.83 24.596.83 25.596	2.14166 2.14166 2.14166 2.
F _{5/13} (x)	22.25 22.25	22.99 22.99 22.099 22.000 20.0000 20.0000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.0000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.0000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.0000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.0000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.0000 20.000 20.00000 20.0000 20.0000 20.0000 20.0000 20.0000 20.0000 20.0000 20.0	3.00	3.24 809	2.4550 2.	3.60334 3.64105 3.64105	3.83591	3.99959 4.08163 4.08413 4.12709	4-2184 4-25878 4-34896 4-34896	6 6 9 1 1 4 2 2 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
×	22224	29255	35351	5000	2222	2222	25251	29288	25555	2 44444 0 44444

Lanchester-Clifford-Schläfli Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and TABLE 20B.

 $\alpha = 5/13$ and x from 1.50 to 10.0. $T_{\alpha}(x)$ for

T _{8/13} (x)	1.26.206 1.27378 1.27388 1.27868	1.29454 1.29956 1.30470 1.30470	1.32873	1.34225 1.34661 1.35690 1.35512	1.35927 1.36335 1.37132 1.37520	1.38278 1.38647 1.39010 1.39367	1.40063	1.41386	1.42917	11111 11111 111111 1111111 11111111111	1.45605
H _{5/13} (x)	11.00 10.00	1.93870 1.95970 1.98985 2.00215	2.06361 2.06523 2.06700 2.08894 2.1104	2.13331 2.17833 2.20113 2.22408	22.24721 22.294053	2.36562 2.38987 2.41432 2.43895 2.46379	2.5488 2.534683 2.534553 2.554519 2.56519	2.66346 2.66998 2.69672 2.72369	2-175089 2-80598 2-80598 2-83388 2-85201	2.89039 2.94781 2.97699 3.00635	3.03597
F _{8/13} (x)	1.45021	1.48747 1.50786 1.51824 1.52875	1.55940 1.55018 1.56109 1.58213	1.59462 1.60607 1.61765 1.62938 1.64125	1.65325 1.66540 1.67769 1.69013	1.72832 1.74832 1.75452 1.76785	1.79496 1.80875 1.82270 1.83680	1.85106 1.86549 1.89607 1.90974	1.92482 1.95548 1.97107 1.98683	2.00276 2.01887 2.03515 2.05161 2.06825	2.08507
.0.01	00000 00000	20000	0-754	29286	20000 20000 20000	200000 200000 200000	04584	11111 60000 10000	9777	59799	1.50
T _{8/13} (x)	4817 5941 8147 9230	90300 91356 92399 94446	5450 7420 9339 9339	00281 001210 02126 03031 03924	1.05605 1.05674 1.05531 1.08211	1.09034 1.09846 1.10647 1.11436	1.12982 1.13739 1.15421 1.15521	1179651 118060 118765 19718	1.20083 1.21382 1.22018	50000000000000000000000000000000000000	1.26206
	00000	90000	00000	90000	00000	00				7777	1.2
H _{5/13} (x)	0.9550 0.9550 0.9550 0.968 0.000 1.000 1.150	1.03280	1.13091	1.19732	1.26471 1.28173 1.29882 1.31598	1.36795	1.43843 1.45627 1.47421 1.97225	1.52862 1.54696 1.56540 1.58395	1.62139 1.65928 1.67840 1.67840	175619	1.81573
F _{8/13} (x)	1.10354 1.10781 1.11662 1.12116	1.12580 1.13584 1.14526 1.14527	1.15537 1.16086 1.16628 1.174	1.18301 1.18879 1.19467	1.20673	1.254533 1.255213 1.255213 1.25503	1.27314 1.28036 1.28768 1.29512 1.30262	1.31 803 1.31 803 1.32 594 1.33 392	1.35623 1.36699 1.376699 1.386421	1.401%	1.43871
* 200	00000 02000	00000 800000 800000	00000	00000	00000	90000	00000 00000	00000 00000 000000	00000	90000 00000 00000	1.00
Te/13(x)	0.00415	0.15219	0.25894 0.27851 0.39763 0.31636	0.35273 0.37042 0.40494 0.42179	00000	00000	00000	00.67520	0.72794	0.00182	0.84817
*5/13(E)	20000 10000 10000	00.17534	0.279999 0.279988 0.31953 0.31953	0.37428	000000000000000000000000000000000000000	00000	00000	0.1157	0.17565	000000000000000000000000000000000000000	0.63599
"erulm	90000	20000	00000	1.00916	1.001930	1.02551	000000000000000000000000000000000000000	1.05024 1.05531 1.05531 1.05532 1.06252	1.06591 1.06918 1.07626 1.07620	1.0087386 1.008128	1.10354
		55000	9=====	50000	22222	22222	99999	00000 00000 00000	00000 44444	2277	05.50

TABLE 21A. Lanchester-Clifford-Schläfli Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and

 $T_{\alpha}(x)$ for $\alpha = 8/13$ and x from 0.00 to 1.50.

a = 8/13	T _{8/13} (x)	1.58724 1.58725 1.58725 1.58725 1.58725	1.58725 1.58725 1.58725 1.58726	1.588726 1.588726 1.588726 1.58726	588726	1.58726 1.58726 1.58726 1.58726	1.58726 1.58726 1.58726 1.58726	1.58726 1.58726 1.58726 1.58726	1.58726 1.58726 1.58726 1.58726 1.58726	1.58726	
	H _{5/13} (x)	233.70743 257.75040 284.27738 313.54569 345.83935	381-47183 420-78920 464-17341 512-04609 564-87266	687.49587 758.48568 836.82740 923.28393	1018-69746 1123-99774 1240-21108 1368-47060 1510-02717	1666.26172 1838.69881 2029.02154 2239.08810 2470.94993	2726.87193 3009.55463 3321.15873 3665.33224 4045.24035	4464.59853 4927.50896 5438.50086 6002.57496	7312-63026 8071-43885 8909-11053 9833-85142 10854-72236	11981.72798	
	F _{8/13} (x)	147.24132 162.38864 179.10095 197.54035 217.88578	240.33475 242.10526 292.43796 322.59848 355.88005	392-60634 433-13464 477-85938 527-21594 581-68499	641.79710 708.13802 781.35438 862.16003 951.34305	1049-77346 1158-41174 1278-31828 1410-66376 1556-74065	1717.97585 1895.94474 2092.38662 2309.22178 2548.57034	2812.77312 3104.41456 3426.34815 3781.72443 4174.02197	4607.08154 5085.14387 5612.89127 6195.49377 6838.65982	1548.69254	
	Service (II)	00000	4444	0-1164	~~~~ ~~~~	0N		04000 04004	NO-80	10.0	
	T _{8/13} (x)	1.555676 1.55304 1.55912 1.56413	1.56826 1.57465 1.57445 1.57674	1.58256 1.58256 1.58336 1.58406	1.5884 1.5885 1.5885 1.5858 6.08	1.58629 1.58646 1.58661 1.58673 1.58682	1.58690 1.58697 1.58702 1.58706	1.58713 1.58717 1.58717 1.58719	1.58721 1.58723 1.58723 1.58723	1.58724	
	H _{5/13} (x)	5-401258 5-94230 6-53491 7-18668	7.90380 8.69307 9.56199 10.51881	12.73345 14.01234 15.42147 16.97426 18.68553	20.57160 22.65049 24.94208 27.46827 30.25325	33.32370 36.70904 40.44175 44.55766 49.09631	54.10130 59.62078 65.70786 72.42114 79.82531	87.99175 56.99921 106.93463 117.89393 129.98298	143.31864 158.02985 174.25893 192.16298 211.91536	233.70743	
	F _{8/13} (x)	3.19671 3.82624 4.19142 4.59469	5.03987 6.07324 6.67122 7.33080	8.05822 8.86041 9.74501 10.72043	12.98191 14.28955 15.73139 17.32123 19.07428	21.00732 23.13890 25.48944 26.08152 30.94002	34.09242 37.56924 41.46333 45.63221 50.29641	55.44091 61.11532 67.37439 74.27857 81.89456	90.29599 99.56399 109.78835 121.06799 133.51213	147.24132	
		20000	~~~~	WWWWW 040WW	444444 44444	11111	14444	พูพูพูพูพ อาเกษจ	พูพพูพ พูจะตอ	0;	
T _{8/13} (x)	11111111111111111111111111111111111111	14444	4444	1.49024 1.49024 1.49024 1.49396	1.50903 1.50233 1.50233	0000000 0000000 0000000000000000000000	200000 200000 200000	00486 00086 00086 00086 00086 00086	1.5524 2.5283 2.	25.55.5 25.55.	1.53676
H _{5/13} (x)	2000 2000 2000 2000 2000 2000 2000 200	3.25922	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	2000 2000 2000 2000 2000 2000 2000 200	14622 1462 146	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	90	4-2557 4-29527 4-39952 4-39951	4000 4000 4000 4000 4000 4000 4000 400	40144 40144 40144 40144	4.91258
F _{8/13} (x)	2.10208 2.11926 2.11926 2.13664	2-17195 2-20802 2-20802 2-20802	2.26.55 2.30.63 2.30.63 2.30.63 2.30.63	2.38021 2.420631 2.420631	\$500 \$500 \$400 \$500 \$500 \$500 \$500 \$500 \$500	2.5932	2.729860 2.729860 2.729860 2.72984 2.72984	22222 22222 22222 22222 22222 22222 2222	2.95223 2.95223 2.95223 3.094631		3.19671
	2222	20200	0-200	11111	2222	2555	32221	1111	11111	25255	2.00

TABLE 21B. Lanchester-Clifford-Schläfli Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and

 $T_{\alpha}(x)$ for $\alpha = 8/13$ and x from 1.50 to 10.0.

T _{5/17} (x)	0.31738 0.32133 0.32133 0.32325 0.32514	0.32700 0.32882 0.33062 0.33238	0.33581 0.33744 0.34073 0.34231	00000	0.35121 0.35260 0.35360 0.3530 0.3530	00.357	00000	000000	00.377455	00000	0.38324
H _{12/17} (x)	00.0021	0.66740 0.67837 0.68945 0.70064	0.72337 0.73490 0.75632 0.77021	0.78222 0.79435 0.81897 0.83148	0.84410 0.85686 0.86974 0.86276	000000000000000000000000000000000000000	0.91765	1.0496 1.07495 1.09495 1.09495 1.09495	11.12 6450 6450 6450 6450 6450 6450 6450 6450	1.22659	1.28905
F _{5/17} (x)	1.93514 1.975515 1.99766 2.01926	2.04100 2.06303 2.08536 2.13090	2.15411 2.20146 2.22559 2.25004	2.27480 2.29987 2.35527 2.35099 2.37703	2.40340 2.45714 2.48452 2.51223	2.556 6.556 6.566 6.5656 6.5666 6.5656 6.5656 6.566	2.11605 2.716605 2.77754 2.80884	2.64052 2.90503 2.93786 2.93786	3.00471 3.03874 3.07317 3.14325	3-21499 3-25159 3-25150 3-258643 3-32580	3.36360
, (S) x	0-000 0-000 0-000	56000	3222		25.55	20000 20000 20000 20000	0-26	20000	0-NM+		1.50
T _{5/17} (x)	00.17624 00.17624 00.18170 18170	0.19282 0.192864 0.20065 0.20361	00.21064	00.2242 00.22958 00.23906 00.23906 00.23900 00.23900	0.244954	00.00	0.27269 0.27269 0.27569 0.27569 0.27699 0.654	0.28577 0.28577 0.28827 0.29313	0.29789 0.30020 0.30020 0.3047	00.300000000000000000000000000000000000	0.31738
H _{12/17} (x)	0.2200 0.2200 0.2200 0.2269 0.2324	0.24580 0.24580 0.25243 0.25913 0.25913	0.27276 0.27869 0.28669 0.29376	00.31545	00.000000000000000000000000000000000000	00.99285	0.44%000.44%000.44%000.44%000.44%000.44%000.44%000.44%000.44%00.44%0000.44%000.44%000.44%000.44%000.44%000.44%000.44%000.44%000.44%0000.44%000.44%000.44%000.44%000.44%000.44%000.44%000.44%000.44%0000.44%000.44%000.44%000.44%000.44%000.44%000.44%000.44%000.44%0000.44%000.44%000.44%000.44%000.44%000.44%000.44%000.44%000.44%0000.44%000.44%000.44%000.44%000.44%000.44%000.44%000.44%000.44%0000.44%000.44%000.44%000.44%000.44%000.44%000.44%000.44%000.44%00000.44%000.44%0000.44%0000.44%0000.44%0000.44%0000.44%0000.44%000000.44%00000.44%0000000.44%00000000	0.44860		00000 00000 00000 000000 00000 00000	0.61418
F _{5/17} (x)	1.22.66 1.22.669 1.25.590 1.25.591	1.26472	1.32781 1.33904 1.35049 1.36214	1.37401 1.38609 1.39838 1.4285	1.49657	1.50469 1.518493 1.55340 1.56320	1.57842 1.59388 1.60958 1.62552	1.65812 1.69171 1.72630	1.74398 1.76191 1.78619 1.79854 1.81725	1.003623 1.003623 1.004498 1.014406	1.93514
200 0 m	00000 NWWW 040W4	00000 800000 800000	00000	00000	00000 0-2000	00000	00000 00000 00000	00000	00000 00000 00000	00000	1.00
T _{5/17} (x)	00000000000000000000000000000000000000	00.0077	000000000000000000000000000000000000000	0.03950	00.005734	000000000000000000000000000000000000000	00000000000000000000000000000000000000	000 1115 1115 1115 1115 1115 1115 1115	000 1131 1131 1143 1432 1432 1432 1432 1432	65.4001 65.4001 65.4001 65.4001	0.17044
H _{12/17} (x)	00000	10000 10000	00200	90490		00000		00000	00000	00000	
F _{5/17} (x)	000000		10000	1.02463	25.25. 25	00000 00000 00000 00000 00000 00000	000000 000000 000000 000000	11111111111111111111111111111111111111	1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.	2906399999999999999999999999999999999999	1.21760
	00000	00000	2=251	20000	3-2-2-2-3-3-3-3-3-3-3-3-3-3-3-3-3-3-3-3	20000	00000	11.0000 11.00000	9-777	55555	0.50

TABLE 22A. Lanchester-Clifford-Schläfli Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and

 $T_{\alpha}(x)$ for $\alpha = 5/17$ and x from 0.00 to 1.50.

a = 5/17	T _{5/17} (x)	00000 00000 00000	0.42195	0.422195 0.422195 0.422195 0.422195	0.42195	0.42195 0.42195 0.42195 0.42195	0.42195 0.42195 0.42195 0.42195	0.42195 0.42195 0.42195 0.42195 0.42195	0.42195 0.42195 0.422195 0.422195 0.422195	0.42195	
	H _{12/17} (x)	179-75802 199-42380 221-22540 245-39370 272-18447	331-88102 334-79717 371-28051 411-71604 456-53021	506-19532 561-23449 622-22705 689-81465 764-70789	847.69373 939.64367 1041.55284 1154.40000 1279.45867	1418.00944 1571.50353 1741.54793 1929.92204 2138.59612	2855-80453 2909-42892 3223-58619 3571-55497	3956.96523 4383.83592 4856.61650 5380.23309 5960.13934	6602.37292 7313.61793 8101.27403 8973.53291 9939.46293	11009-10286	
	F _{5/17} (x)	426-02496 472-63180 524-30050 581-57826 645-07120	715.45078 753.46071 879.92479 975.75548 1081.96340	1199.66792 1530.10877 1474-65900 1634-83927 1812-53367	2009.00727 2226.92552 2468.37571 2735.89079 3032.27566	3360.63634 3724.41224 4127.41183 4573.85221 5068.40287	5616-23411 6223-07069 6895-25115 7639-79352 8464-46804	9377-87767 10389-54712 11510-02154 12750-97560 14125-33432	333.03	26091.21170	
	×	99999 0-044	00000 00000	0-0-0	******* ******	300000 0-004	ఇ. అక్కా అక్క గా చులు	0-0-0-0-0	00000 00000	10.0	
	T _{5/17} (x)	0000 1444 1446 1486 1486 1486 1486 1486 1486	0.41692 0.41860 0.41921 0.41921	0.42013 0.42073 0.42096 0.42096	0.42129 0.42141 0.42151 0.42159	0.42171 0.42175 0.42187 0.42184	0.42186 0.42187 0.42199 0.42199	0.42192 0.42193 0.42193 0.42193	0.42194 0.42194 0.42194 0.42194	0.42194	
	H _{12/17} (x)	2.41514 2.719510 3.05717 3.43221	4.82490 5.39547 6.02922 6.73315	7.51501 8.38339 9.34785 10.41896 11.60844	12.92930 14.39594 16.02436 17.83227 19.83931	22.06726 24.54025 27.58504 30.33128 33.71185	37.46317 41.62564 46.24399 51.36783 57.05212	63.35776 70.35226 78.11040 96.71506	106-84117 118-57709 131-59074 146-02048	179.75802	
	F _{5/17} (x)	5.91969 6.62356 7.40830 8.28271 9.25655	10.34068 11.54715 12.68936 14.38218 16.04211	17-88748 19-93859 22-21800 24-75072 27-56449	30.69009 34.16164 38.01697 42.29805 47.05138	52.32.855 58.16673 64.68931 71.90656 79.91634	88.80500 98.66820 109.6120 121.75394 135.22424	150.16726 166.74293 185.12852 205.52042 228.13624	253.21712 281.03023 311.87155 346.06903 383.98600	426.02496	
		0-144	~~~~~ ~~~~~		~~~~~ ~~~~~	11111 0	11111	เกษาการ การการ	พูพูพูพูพ พ.จษ®ฉ	3	
T _{5/17} (x)	00.38470 00.38470 00.38470 00.38650	00000	00.199	00000 00000 00000 00000 00000	9999	00000 60000 80000 80000	00000	00000	000000000000000000000000000000000000000	00000	0.40798
H _{12/17} (x)	1.3000 1.30000 1.30000 1.30000 1.30000 1.30000 1.30000 1.30000 1.30000 1.30000	1.39557	1955	1.556	14992	1.02001 1.02001 1.02001 1.02001	10000000000000000000000000000000000000	2.00407	2.14100 2.16715 2.24725 2.24725	2.27451 2.329205 2.35988 2.35801 2.36643	2.41514
F _{5/17} (x)	3.3636 3.4405 3.54405 5.4405 5	3.55932 3.664081 3.664081 3.72419	3. 70950 3. 70950 3. 80950 5. 80950 5. 80950	3.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	1757	9.000	21.000 21.0000 21.000 21.000 21.000 21.000 21.000 21.000 21.000 21.000 21.0000 21.000 21.000 21.000 21.000 21.000 21.000 21.000 21.000 21.0000 21.000 21.000 21.000 21.000 21.000 21.000 21.000 21.000 21.0000 21.000 21.000 21.000 21.000 21.000 21.000 21.000 21.000 21.0000 21.0000 21.000 21.000 21.000 21.000 21.000 21.000 21.000 21.000 21.0000 21.000 21.000 21.000 21.000 21.000 21.000 21.000 21.000 21.0000 21.000 21.000 21.000 21.000 21.000 21.000 21.000 21.000 21.0000 21.000 21.000 21.000 21.000 21.000 21.000 21.000 21.000 21.0000 21.000	5.05526 5.11268 5.11268	5.470949	5.659 5.459	69616.5
	22222	500000	9-7-7-1	59999	27.7.5	50000	0-7254	20000	200000	25666	2.00

TABLE 22B. Lanchester-Clifford-Schläfli Functions F $_{\alpha}(x)$, H $_{1-\alpha}(x)$, and

 $T_{\alpha}(x)$ for $\alpha = 5/17$ and x from 1.50 to 10.0.

, (x)	22111	526 1646 113 019	618 786 355 916	2004 804 804 804 804 804 804 804 804 804	96000	503 8412 291	750 962 962 962 962	20112	25250	80-183	106
T12/17 ^(x)	1.9717 1.9856 1.9951 1.9921	2.00526	20000	2.006467 2.007667 2.007672 2.008583	2.09080 2.09589 2.10580 2.110362	2-11-503 2-11-961 2-12-855 2-12-855 2-12-855	2.13720 2.14141 2.14555 2.14962 2.15362	2.15755 2.16141 2.16651 2.16695 2.17261	2.17622 2.18325 2.18667 2.19003	2.2029	2.2090
H _{5/17} (x)	2.17. 2.17. 2.17. 2.80. 2.80. 2.80. 2.80. 2.80. 1.7.	22.22.0883 22.9883 22.9883 23.9893 25.9883 25.9883 25.9883	2.96907 3.01672 3.07263	3-12935 3-18932 3-21602 3-24534	3.27489 3.30467 3.38467 3.36490 5.39537	3-42608 3-45703 3-51982 3-51966 3-551966	3.58329 3.61549 3.68068 3.71367	3.74693 3.78046 3.81427 3.84835 3.88272	3.991738 3.981738 4.02310 4.05310	4-109507 4-16827 4-26834 4-26834	4.28042
F12/17(x)	1.38093 1.38915 1.40592 1.4146	1.42310 1.43186 1.44073 1.44970	1.46798 1.48671 1.49625 1.50590	1.51567 1.535557 1.54567 1.54567	1.56626 1.57674 1.598734 1.60890	1.61988 1.63097 1.64219 1.65354 1.65502	1.67663 1.68837 1.70024 1.71225 1.72439	1.74907 1.76161 1.77430 1.78712	1.80008 1.81319 1.62644 1.833983	1.86089 1.89487 1.90900 1.92328	1.93771
×	00000	00000	2-254	29000	11111 22222 23222	282162	11111 12110 12110	44444 64444 64444 64444 64444 64444 64444 64444 64444 64444 6444 64444 6444	97777	*****	1.50
T _{12/17} (x)	1.44740 1.46218 1.49744 1.59521	1.51914 1.55286 1.55938 1.57287	1.59856 1.59850 1.62105 1.62343	1.66462 1.65946 1.687112 1.69361	1.70507 1.72688 1.73755 1.74805	1.75840 1.76859 1.78853 1.79852	1.80786 1.81731 1.83578 1.84571	1.85370 1.86246 1.87158 1.887957	1.89616 1.91224 1.92209	1.93543 1.956293 1.95756 1.96756	1.97174
H _{5/17} (x)	1.57792 1.59946 1.64250 1.66402	1.68554 1.72860 1.75015 1.77173	1.79333 1.81497 1.83854 1.85854 1.88010	1.90190 1.92375 1.94566 1.98766	2.01176 2.03393 2.05618 2.07850 2.10090	2.12339 2.14597 2.16864 2.21427	2.25724 2.289349 2.39678 2.39619	2.42503 2.42503 2.42503 2.42506	22.544 22.54932 22.54932 2461952 115952 115952	2.6213 2.62136 2.64634 2.641634	2.72283
F12/17(x)	1.09389 1.09389 1.09389	1.10953	113090	1.15433 1.16422 1.16429 1.17459	1.17987 1.18523 1.19659 1.19623 1.20186	1.20757 1.21338 1.21928 1.22526 1.23134	1.25.377 1.25.917 1.25.912 1.25.910	1.26974 1.28329 1.29021 1.29722	1.30433 1.31854 1.31656 1.33656	1.34137 1.35489 1.35489 1.37281	1,38093
	99999	00000 00000 000000	00000 04000 04000	00000	27224	22222	00000	00000	00000	00000	1.00
H _{5/17} (x) T _{12/17} (x)	0.15063 0.25645 0.28745 0.34039	00.4389000.541893339000.54189333333333333333333333333333333333333	0.58273 0.61613 0.64825 0.64825 0.70918	0.73822 0.76640 0.79361 0.82049 0.84651	000000000000000000000000000000000000000	0.99067 1.012988 1.059485 1.059485	1.09808 1.113837 1.115799	1.19626 1.21492 1.23327 1.25133	1.52 1.92 1.92 1.93 1.93 1.93 1.93 1.93 1.93 1.93 1.93	1.4000 1.4000 1.4010 1.4010 1.4010	1.44740
H _{S/17} (x)	00000 34846 00000 00000 00000 00000 00000	00000	0.58480 0.661847 0.65136 0.65136	0.74411 0.17336 0.80195 0.82993 0.85736	0.98675 0.91675 0.99675 0.96245 0.98774	1.01270	1.15973	1.24863	1.4263 4.4249 4.4249 6.435 6.4	1.5597 1.5597 1.5597 2.597 2.597 3.5	1.57792
F12/17 ^(x)	0000000	1.00089 1.000174 1.00027	1.00354 1.005429 1.005991 1.00599	1.00798 1.00908 1.01026 1.01150	1.01421	1.02224	1.034209	1.04.634 1.04.694 1.05169	1.065733	00000	1.09018
	05000	55000	2222	59290	22222	22222	0-2mm	29292	97773	22222	25

TABLE 23A. Lanchester-Clifford-Schläfli Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and $T_{\alpha}(x)$ for $\alpha = 12/17$ and x from 0.00 to 1.50.

a = 12/17	H _{5/17} (x) T _{12/17} (x)	264917 2.36995 2648 2.36995 82019 2.36995 88019 2.36995	455.86264 2.36996 502.10943 2.36996 553.07830 2.36996 609.25337 2.36996	739-41276 2-36996 814-63533 2-36996 897-55255 2-36997 988-95440 2-36997	20000	.55767 2.36997 .50258 2.36997 .02128 2.36997 .43727 2.36997	3176-31367 2-36997 3860-04979 2-36997 4255-47013 2-36997 4691-53557 2-36997	5172-43456 2-36997 62872-78198 2-36997 6287-69393 2-36997 6932-77704 2-36997 7644-24298 2-36997	.93852 2.36997 .01791 2.36997 .92943 2.36997 .30496 2.36997	.33875 2.36997	
5,000	F _{12/17} (x) H	118-7571 281. 153-76576 309. 163-576979 341. 158-57695 375. 174-64407 413	231.86407 233.37016 257.07300 263.19787 671	343.73312 343.73312 814 318.71974 887 459.80081	506. 66 840 1200.158.268.31644 1323.2678.29828 14588.2678.747.33599 1771.1	823.67418 1952.0 907.84297 2151.9 1000.64800 2311.9 1102.91798 2814.0	1340.23543 3176 1428.73567 3860 1628.73567 3860 1795.5860 4255	2182-49218 5172 24653-07228 6287 2925-26328 6932 3225-46378 7644	3556.56354 8428 3921.76978 9294 4324.53941 10249 4768.81281 11301 5258.85148 12463.	5799,37957 13744.	
	×	0-1/16	44040 Normor	0-0-0-	2.6	0=Nm4	ფ. ფ	99999 0-17m4	0.0000 0.0000 0.0000	10.0	
	T _{12/17} (x)	2-30763 2-32762 2-33510 2-34128	22.334 22.334 23	2.36212 2.36212 2.36502 2.36509 2.36597	2.36669 2.36728 2.36776 2.36816 2.36848	2.36897 2.36897 2.36915 2.36930 2.36942	2.36952 2.36960 2.36967 2.36972 36972	2.36980 2.36988 2.36988 2.36988 2.36988	2.369991 2.369991 2.369993 2.369993 2.36999	2.36994	
	H _{5/17} (x)	6.66133 7.28143 7.96167 8.70824 9.52794	12.50435	16.45652 18.04448 19.79090 21.71181 23.82485	26.14948 28.70711 31.52133 34.61815 38.02620	41.77705 45.40547 50.44979 55.45224 60.95936	67.02246 73.69808 81.04853 89.14249	107.87160 118.68220 130.58892 143.70358 158.14943	174.06236 191.59221 210.90415 232.18032 255.62152	281.44917	
	F12/17(x)	2.88665 3.42051 3.72927 4.06954	4.44441 5.85728 5.31189 6.36338	6.96973 7.63715 8.37170 9.18012 10.06982	11.04898 12.12664 13.31272 14.61817	17.63674 19.37781 21.29446 23.40450 25.72756	28.28528 31.10150 34.20252 37.61732 41.37783	45.51926 50.08045 55.10417 60.63760 66.13275	73.44.695 80.84343 88.99187 97.96913 107.85993	1118.7571	
	*	0-000	~~~~~ ~~~~~	O-0000		11111 0-1/m4	11111	NIVANNI OHIVWA	พพพพพ พ.จะ๑๑	0.	
T12/17(x)	2.20 2.21 2.21 2.21 2.21 2.21 3.21 3.21 3.21	22.22.22.22.22.23.23.24.22.23.23.24.22.23.23.24.22.23.22.23.24.22.23.24.22.23.24.22.23.24.22.23.24.22.23.24.22.23.24.22.23.24.22.23.24.22.22.22.22.22.22.22.22.22.22.22.22.	2-23896 2-24140 2-24140	2.25296 2.25296 2.25296 2.25296	2.25941 2.26352 2.26352 2.26352 2.26352	2.27130 2.27130 2.27130 2.27499	2.27853 2.28195 2.28195 2.28195 2.2834 2.2834 2.2834 2.2834 2.2834	2.28685 2.28843 2.28997 2.29149	2.29443 2.2958728 2.299728 2.30091	2.30134 2.30365 2.30393 2.30642	2.10763
H _{5/17} (x)	**************************************	44. 44. 44. 44. 44. 44. 44. 44.	4.71737 4.7173	4.93029 4.93029 5.01612	5.1075 5.1075 5.1075 5.2046 5.	7.44-00 7.44-0	5.67.934 5.67.934 7.67.899 7.77.8990 7.77.8990	5.983 5.983 5.983 5.983 5.983 5.048	6.09569 6.20472 6.25472 6.31575	6.37204 6.48616 6.544016 6.54402	6.66133
F12/17(x)	1.93771 1.95230 1.96705 1.96709	22.00.22	2-09075 2-12992 2-129932 2-129932	2.17346	2.26056 2.27852 2.29666 2.39666	2.352.2 2.37112 2.39021 2.420949	2.468853 2.468861 2.5088613 2.508861	2.55008 2.59210 2.69210 2.61493	2.65673 2.67871 2.72392 2.75937 2.74593	2.76883 2.79193 2.81526 2.83882 2.86282	2.88665
	22222	20000	0777	5000	2222	2222	20000	50000	95555	592.86	2.00

TABLE 23B. Lanchester-Clifford-Schläfli Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and $T_{\alpha}(x)$ for $\alpha = 12/17$ and x from 1.50 to 10.0.

T _{5/21} (x)	0.24268 0.24416 0.24561 0.24703 0.24843	0.25115 0.25115 0.25247 0.25377	0.25428 0.25751 0.25871 0.25988	0.265217 0.265328 0.26537 0.26544	0.26451 0.26852 0.26950 0.27047	0.27235	0.27673 0.27836 0.27915 0.27992	0.28068 0.282143 0.28216 0.28287 0.28387	0.28426 0.28493 0.28559 0.28623 0.28686	0.288748 0.288609 0.288926 0.289926	0.29039
H _{16/21} (x)	0.5242 0.53366 0.54326 0.55286 0.55286	0.5725 0.58725 0.59255 0.66025	0000 64400 6554400 6554400 6554400 655400 655400	0.64840 0.64840 0.65963 0.71098	0.73404 0.75759 0.76956 0.78956	0.79389 0.80624 0.81873 0.83136 0.8411	0.88701 0.88321 0.99653	0.92358 0.93733 0.95122 0.96526 0.97945	0.99379 1.00829 1.02294 1.03774	1.06783 1.088312 1.09857 1.11419	1.14592
F _{5/21} (x)	2.16003 2.18569 2.21170 2.23807 2.26480	2.29188 2.31934 2.34716 2.40392	2.43287 2.46220 2.49191 2.552201 2.55251	2.58340 2.64639 2.64639 2.67850 2.71101	2.17729 2.81106 2.84526 2.87989	2.91496 2.95046 2.98641 3.02281 3.05966	3.09696 3.17296 3.21166 3.25083	3.29049 3.39069 3.4126 4.126	3.49612 3.58183 3.6255 3.66255 3.66974	3.71445 3.80549 3.85182 3.89182	3.94614
× 0	00000	00000	21201	111111	22222	1.25 2.25 2.25 2.25 2.25 2.25 2.25 2.25	1.0000 0.0000 0.0000 0.0000 0.0000		2-7	14444 44444 8466	1. 50
T _{5/21} (x)	000000000000000000000000000000000000000	0.15716 0.15700 0.15283 0.15562	0.15838 0.16111 0.16381 0.16649	0.17174 0.17431 0.17937 0.18185	0.18430 0.18672 0.18910 0.19145	0.20051 0.20051 0.20051 0.20051	0.20696 0.206905 0.21110 0.213110	0.21706 0.22067 0.22273 0.22273	22220	0.23469 0.23869 0.23869 0.2418	0.24268
H _{16/21} (x)	0000116601	0.19153 0.20288 0.20867 0.21452	00000 2230645 2330645 68656 69666	0.25122 0.25761 0.27660 0.27721	0.28390 0.29067 0.39465 0.31146	0.32872 0.32598 0.340398 0.34774	0.35524 0.35524 0.37051 0.38612	0.39406	00.44350 00.44350 00.46581 00.46681 00.46681	00.50643	0.52421
F _{5/21} (x)	1.26919 1.29175 1.303475 1.31529	1.32 744 1.33983 1.35837 1.37852	1.39192 1.40559 1.41951 1.41951	1.46285 1.47782 1.49307 1.50858	1.55 042 1.55 042 1.57 336 1.59 0742	1.62488 1.664262 1.664264 1.67896	1.71647 1.73567 1.75516 1.77596	1.81547 1.83619 1.85721 1.90025	1.92218 1.94448 1.96710 1.99004 2.01332	2.03692 2.06086 2.08514 2.10976	2.16003
*	กออกจ ละเกษณ์ ละเกษณ์	00000	00000	00000	20000	22222	00000	00000 00000 000000 000000	33333	00000	1.00
T _{5/21} (x)	000000	0.00047	0.01354 0.02007 0.02007 0.02242	00.00278	0.04670	0.05522 0.05522 0.05622 0.06126 0.06431	0.076739 0.076789 0.07359 0.07678	0.00000 0.000013 0.000013 0.000000	000000000000000000000000000000000000000	0011431	0.12956
H _{16/21} (x)	000000000000000000000000000000000000000	0000678	000000000000000000000000000000000000000	0.002843 0.002807 0.0030807 0.003080	0.03951 0.04259 0.04874 0.05230	0.05569	0.001382	0.09379 0.10229 0.110629	0.12556 0.1254713 0.12948	00.1449 00.1449 00.15490 00.15	0.16443
F _{5/21} (x)	000000	1.00264 1.00378 1.00515 1.00672	1.01051	1.02368 1.02695 1.03043 1.03413	1.04651 1.05107 1.05584 1.06083	1.06604	1.09536 1.10864 1.12661 1.12661	1.13022 1.13767 1.15384 1.16217	1.17952 1.18854 1.19779 1.20728	1.23.70 1.23.70 1.24.70 25.70 1.24.71 1.24.71	1.26919
	00000	50000	20000	2000	25222	20000	99999 84444	00000	32777	00000 24444 24444	0.50

TABLE 24A. Lanchester-Clifford-Schläfli Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and

 $T_{\alpha}(x)$ for $\alpha = 5/21$ and x from 0.00 to 1.50.

### #### ##### ##### #################										
AND STATE ST	1.14592	00.2990	×	F _{5/21} (x)	H _{16/21} (x)	T _{5/21} (x)	×	F5/21 (x)	H _{16/21} (x)	T5/21 (x
##### ################################	1.22827 1.24528 1.26246 1.27983	200000	0-0-0-	7.16923 8.06109 9.05716 10.16895 11.40929	2-20 2-40 2-640 3-1643	0.30355 0.31035 0.31289	0-10m4	561.99606 624.14143 693.09612 769.60184 854.48071	178-11208 197-80798 219-66195 243-90906 270-80986	00000
200 B 1 S 200 S 20	1.3513	00.29958	20200 20200	12.79243 14.33422 16.05230 17.96624 20.09781	5.00 5.00 5.00 5.00 5.00 5.00 5.00 5.00	00.331455 00.331455 00.3315171 00.345171	46.66	948.64398 1053.10168 1168.97324 1297.49938 1440.05512	300.65317 333.75908 370.48239 411.21630 456.39662	00000
55-2-4-4-4-4-4-4-4-4-4-4-4-4-4-4-4-4-4-4	142564	0.29830 0.29830 0.29830 0.29830 0.29830 0.29830	0-N-4	22.47120 25.11324 28.05377 31.32590 34.96638	7.09484 7.93457 8.86870 9.90773	0.31573 0.31628 0.31628 0.31640	0-1064	1598-16435 1773-51585 1967-98111 2183-63403 2422-77275	506-50631 5623-71260 692-05961 767-86999	00000
5-33020	50334	20000 20000	MMMM	39.01602 43.52012 48.52897 54.09836 60.29020	12.34844 13.77744 15.36627 17.13264 19.09617	0.31658 0.31658 0.31664 0.31674	592.86	2687.94382 2981.96898 3307.97487 3669.42579 4070.16016	851.89081 945.07636 1048.39758 1162.95240 1289.95734	0.00
5.45903	1.60524 1.64753 1.66904	0000	11111 0	67.17322 74.82365 83.32607 92.77435 103.27258	21.27865 23.70426 26.39981 29.39504 32.72297	22222	0-24	4514-43079 5006-94950 5552-93656 6158-17538 6829-07318	1430.76024 1586.85443 1759.89436 1951.71297 2164.34092	0.316933
25.5.5.5.5.5.5.5.5.5.5.5.5.5.5.5.5.5.5.	1.73.492 1.73.492 1.73.735 1.7	00000000000000000000000000000000000000	11111	114-93627 127-89351 142-28642 158-27260 176-02686	36-42021 45-52735 45-08944 50-15644 55-78376	0.31688 0.31688 0.31690 0.31690	00000 00000	7572.72610 8397.00349 9310.61029 10323.19814 11445.45635	2400.02780 2661.26576 2950.81557 3271.73548 3627.41326	00000
6.00450 6.14842 6.25206 6.25206	82609 1.87316 1.87316 1.09708	00000000000000000000000000000000000000	0-044	195.74306 217.63620 241.94470 268.93293 258.89406	62.03283 68.97181 76.67625 85.22995 94.72582	0.31691 0.31692 0.31692 0.31692	0-10-4	12689.22565 14067.62200 15595.17360 17287.97268 19163.84354	4021.60160 4458.45735 4942.58494 5479.08448 6073.60503	0.31693 0.31693 0.31693 0.31693
6.37123 6.52378 6.652378 6.67933	1.94568 1.94568 2.02056 2.04605	00000000000000000000000000000000000000	พละตล พละตล	332-15114 369-07039 410-04-00 455-5239 505-99091	105.26690 116.96739 129.95395 144.36700 160.36218	- mmmm	20000 20000	21242.52857 23545.89436 26698.15971 28926.14825 32059.56811	6732.40357 7462-41028 8271.30082 9167.57644 10160.65253	0.31693 0.31693 0.31693 0.31693
6- 75910 6- 83910 6- 92041 7-00243 7- 08536	2.07182 2.097887 2.12420 2.15081 2.15081	0.000 0.000	••	561.99606	178.11208	0.31693	0.01	35531.32147	11260.95681	0.31693
7.16923	5.20489	0.30755								

TABLE 24B. Lanchester-Clifford-Schläfli Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and

 $T_{\alpha}(x)$ for $\alpha = 5/21$ and x from 1.50 to 10.0.

T _{16/21} (x)	2.70972 2.71752 2.72520 2.73275 2.74017	2.74747 2.76172 2.76867 2.77551	2-78523 2-79534 2-80173 2-80802	2-81420 2-82628 2-82626 2-83214 2-83792	2-8494 2-8494 2-8546 2-8560 2-8659 3-9659	2-8754 2-88574 2-88574 2-89514	2-89540 2-90911 2-90929 2-91376	2.91815 2.92646 2.93671 2.93688 2.93497	2.93900 2.94295 2.94684 2.95066 2.95441	2.95810 2.96528 2.96528 2.97221	2.97559
H _{5/21} (x)	3.66538 3.726538 3.72659 3.78797	3.98400 3.98400 3.91914 3.95206	4.09622 4.09622 4.09622 4.09614	4-15467 4-22423 4-27423 4-24941	4.33058 4.36658 4.40285 4.43941 4.43941	44.553.34 44.553.34 62660 462660 462660	4.70360 4.74257 4.78185 4.82146 4.86139	4.94124 4.94224 5.02445 5.02445	5.224503 5.24503 5.24503 5.24503 5.24503 5.24503	5.45 5.45 5.45 5.45 5.65 5.65 5.65 5.65	5.54780
F _{16/21} (x)	1.35212 1.35212 1.35736 1.37516	1.39101 1.40726 1.41553 1.42391	1.43238 1.44965 1.45843 1.6732	1.47632 1.48543 1.50395 1.51338	1.52292 1.53257 1.55220 1.55220	1.58249 1.58249 1.59282 1.60326	1.62451 1.63531 1.64622 1.65726 1.66843	1.67971 1.70266 1.70266 1.71432	1.73802 1.75224 1.76224 1.77454	1.82509 1.82509 1.83807 1.85119	1.86444
*	00000	00000			27222	11111 2222 23122 268		1.33 1.33 3.53 3.53 3.53 3.53 3.53 3.53	32323		1.50
T16/21 (×)	2 - 10575 2 - 12322 2 - 14039 2 - 15728	2-19024 2-20632 2-22213 2-23770 2-25301	2-26808 2-28291 2-39750 2-31185 2-32598	2.35357 2.35357 2.36030 2.38030	2.40618 2.41882 2.443126 2.44350 2.45554	2-47907 2-47907 2-59056 2-50186	2.5533 2.55453 2.55453 2.5553 2.5553	2.5566 2.5666 2.56958 2.66958 2.61598	2.63431 2.63435 2.66155 2.66015	2.0044 2.0044 2.0044 2.0044 2.0044 2.0044	2.10972
H _{5/21} (x) 1	2-30156 2-30156 2-33397 2-36011 2-36624	2-41234 2-45645 2-49065 2-51677	2.55429 2.55429 2.5528 2.62151 2.64151	2.72695 2.72695 2.75346 2.7896	2.83344 2.83344 2.86026 2.38718 2.91419	2.994130 2.996851 2.996851 3.023583 3.053583	32.00 32.00	3.241886 3.274735 3.30480	3-3962 3-46218 3-45162 3-451062	3.55110 3.5511	3.66387
F16/21 (x)	1.088350 1.09644 1.09404 1.09402	1.10521	1.12535 1.12961 1.13994 1.13835	1-14284	1.16645 1.17141 1.18158 1.18678	1.19206 1.19743 1.20288 1.20841	1.22550 1.23550 1.23137 1.24336	1.25570 1.25570 1.25839 1.25839	1.288143 1.298809 1.39483 1.30167	1.31562 1.32273 1.32994 1.3463	1.35212
× North Control	30000 030000 030000	00000	0-000	00000	22222	200000	00000 0=000	00000 menae no-ac	00000 04000 04000	50000	1.00
T _{16/21} (x)	00000 00000 00000 00000 00000 00000	00.000000000000000000000000000000000000	1.053381 1.053881 1.146337 1.146033	1.25752 1.25752 1.32893 1.36296	1.39599 1.45907 1.45928 1.51928	1.554816 1.554816 1.650889 1.65713	1.66288 1.70609 1.75696 1.78067	1.826391 1.82670 1.87100 1.87100	1.91.968 1.93.844 1.97.885 1.99.956	2.001288 2.001288 2.005289 2.005994 2.005994	2.10575
H _{5/21} (x)	00000	000000000000000000000000000000000000000	1.01062 1.05799 1.10376 1.14670	1.22895 1.26810 1.36810 1.34309 1.37915	1.41436	1.58005 1.64246 1.64246 1.67300 1.07300	1.78232 1.79142 1.82023 1.84876	1.99299 1.99299 1.96096 1.96096	2.04242	2.229622	2.20158
F16/21 (x)	000000	78 10 9 000000 000000	1.0032 1.0032 1.00573 1.00555	1.00043	1.01316	1.02229 1.02229 1.02229 1.02587	1.02972 1.03175 1.03384 1.03601 1.03624	1.04055 1.04292 1.04784 1.054787	1.055310 1.055310 1.055310 1.055310	100000 100000 100000 100000 100000 100000	1.08350
•	00000	86066	2222	20000	22222	************	99999 94099	20000 20000 20000	99999 54444 54444	24244	05.0

Lanchester-Clifford-Schläfli Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and $T_{\alpha}(x)$ for $\alpha = 16/21$ and x from 0.00 to 1.50. TABLE 25A.

1 = 16/21	T16/21 (x)	38555 585555 585555 585555 58555 58555	3.15526 3.15526 3.15526 3.15526	3.15526 3.15526 3.15526 3.15526	3.15527 3.15527 3.15527 3.15527	3-15527 3-15527 3-15527 5-15527 5-15527	3.15527 3.15527 3.15527 3.15527 3.15527	3.15527 3.15527 5.5527 5.5527 5.5527	3.15527	3.15527	
	H _{5/21} (x)	331-67003 364-84977 401-38180 441-60680 485-90024	534-67593 588-389993 547-54492 712-69492 734-45058	663-48502 950-54017 1046-43388 1152-06769 1268-43541	1396-63260 1537-86701 1693-47011 1864-90980 2053-80437	2261.93803 2491.27791 2743.99286 3022.47422 3329.35863	3667.55333 4040.26395 4451.02519 4903.73471 5402.69045	5952-63186 6558-78532 7226-91425 7963-37445 8775-17510	9670-04603 10656-51197 11743-97446 12942-80217 14264-43063	15721.47212	
	F16/21 (x)	105-11717 115-63276 127-21079 139-95925 153-95713	169-45557 186-47913 205-22710 225-87507 248-61659	273.66498 301.25537 331.64698 365.12552 402.00597	442-63554 487-39701 536-71-235 591-04679 650-91321	716-67709 789-56187 869-65491 957-91412 1055-17512	1162-35930 1280-48263 1410-66536 1554-14278 1712-27703	1886-57019 2078-67866 2290-42904 2553-83568 2781-12001	3064.73183 3372.02284 4101.96782 4520.83209	4982.61287	
	× -	94999 0	4444 4444	 0-1/14	****** ******	04004 0404	000000 00000 00000	00000 0-000	00000 00000	10.0	
	T _{16/21} (x)	3.08557 3.09777 3.10787 3.11623 3.12313	200 200 200 200 200 200 200 200 200 200	2000 2000 2000 2000 2000 2000 2000 200	3.15158 3.15524 3.153248 3.15360	200000 200000 200000 200000 200000 2000000	9.00 9.00 9.00 9.00 9.00 9.00 9.00 9.00	8.1.5.5.5.5.5.5.5.5.5.5.5.5.5.5.5.5.5.5.	88-1555-0 1555-0	3.15524	
	H _{5/21} (x)	8.43296 9.18375 10.00683 11.89952	14-17947 15-17947 15-92705 16-92705	20.24059 22.14584 24.23896 29.06581 29.06581	34-84294 34-89515 38-25000 41-93784 45-99205	50.44942 55.35044 60.73971 66.6693 73.18439	80.35344 88.23910 96.91362 106.45659 116.95567	148.50745 141.21830 155.20544 170.59797 187.53817	206-18274 226-70439 249-29339 274-15939 301-53341	331.67003	
	F16/21(x)	2.73304 2.96463 3.50983 3.80087	4.515063 4.515063 5.38692 5.38692 6.377 6.877	7.03587 7.69836 9.225837 9.225837	10-10381 11-06995 12-13214 13-29996 14-56400	17.54848 17.5588 19.25588 21.13364 23.19890	25.47054 27.96934 30.71819 33.74231 37.06950	40.73034 44.75835 49.19129 54.06945 59.43814	65.34.702 71.85081 79.00982 86.89050 95.56606	105-11717	
	*	0-1444 14444	**************************************	O=NM+ กักกักกัก	446444 44644	14444	*****	พูพูพูพูพู อาเกมจ		•	
T _{16/21} (x)	2000 2000 2000 2000 2000 2000 2000 200	25.55 20.0000 20.0000 20.0000 20.0000 20.0000 20.0000 20.0000 20.0000 20.0000 20.000	20000 20000 20000 20000	33.00 30.00 30 30.00 30 30 30 30 30 30 30 30 30 30 30 30 3	00000 00000 000000 000000 000000	48.296	00000000000000000000000000000000000000	00000 00000 00000 00000 00000 00000 0000	10000 10000 10000 10000	200000 200000 200000	3.00557
H _{5/21} (x)	64444444444444444444444444444444444444	500000 500000 5000000 5000000 5000000 5000000	6-02705	6.12 6.13 6.13 6.14 6.14 6.14 6.14 6.14 6.14 6.14 6.14	6.55021	4 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	7.12206	7.42784	7.74.77	00000 000000 000000 000000000000000000	9.43296
F16/21(x)	12768	1.096.1 1.096.1 1.096.1 1.096.1 1.096.1 1.096.1 1.096.1 1.096.1	2000 2000 2000 2000 2000 2000 2000 200	22.11.22.22.22.22.22.22.22.22.22.22.22.2	2.19358 2.19358 2.219358	2.296175	2.33272 2.36991 2.36928 2.38784 2.40658	25.55 25.55	2.55.20 2.55.30 2.55.30 2.55.30 2.55.30 3.55.3	2532 2532 2532 2525 2525 2525 2525 2525	2.73304
*	2222	2222	95305	50000	2777	2222	2=201	2222	0-20	20000	2.00

TABLE 25B. Lanchester-Clifford-Schläfli Functions $F_{\alpha}(x)$, $H_{1-\alpha}(x)$, and $T_{\alpha}(x)$ for $\alpha = 16/21$ and x from 1.50 to 10.0.